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Vol. IV JUNE, 1949 *No. 2*

POSTWAR MONETARY AND CREDIT POLICIES

Postwar Commercial Bank Lending Policies . *William E. Dunkman* 87

Notes on Federal Reserve Policy, August, 1945-June, 1948 . . . . . *Charles C. Abbott* 101

Discussion . . . . . *R. J. Saulnier* 110

Dicussion . . . . . *John H. Wills* 114

CURRENT INVESTMENT TENDENCIES—THEIR DIRECTION AND SIGNIFICANCE

Current Trends in Institutional Investments . . *F. J. McDiarmid* 119

Current Tendencies in College Investments . . . *J. Parker Hall* 129

Postwar Changes in Commercial Bank Investments in U.S. Government Securities . . . . . *J. Brooke Willis* 140

Trends in Investment Policies of Individuals . *Paul L. Morrison* 156

Discussion . . . . . *Wilford J. Eiteman* 176

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POSTWAR MONETARY AND CREDIT POLICIES*

POSTWAR COMMERCIAL BANK LENDING POLICIES

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INTRODUCTION

Three questions may be identified in the general discussion of postwar bank lending policies: (1) are bank lending policies the cause of rising prices in the specific markets affected, e.g., real estate, consumers durable goods, etc.; (2) are they causing a deterioration in the quality of the debt structure; (3) how can they be prevented from causing a generally inflationary expansion of demand deposits. This paper analyzes these three effects of postwar bank lending policies and the proposals to mitigate or eliminate them.

Only the third question is uniquely related to commercial banking. In the present circumstances, there are three methods by which bank loan expansion can be prevented from causing deposit expansion. The first is to prevent the expansion of bank loans through restrictive legislation. For reasons to be discussed later, it is concluded that such a policy is ineffective and otherwise undesirable. The second method is the traditional central bank control of total commercial bank reserves. This method has been used with caution by the Federal Reserve authorities for fear of its effect on the government bond market. Therefore, to the extent that total savings are inadequate to meet the total demand for loans, the only remaining possibility of restricting deposit expansion is a sufficient debt retirement by the Treasury to offset the loan expansion in the commercial banks.

There is nothing novel in this conclusion, for the universal experience of war and postwar years teaches that at those times the fate of a nation's currency supply lies in fiscal policy. It is unfortunate that this point has not been emphasized and reiterated by economists and public officials.

The issue has been partly confused by suggestions for changing the structure of bank reserves in the hope that some formula can be devised for controlling deposit expansion without increasing interest rates. These proposals are analyzed and found to be incapable of accomplishing the result.

*The following two papers and two discussion papers were presented at the joint session of the American Finance Association with the American Economic Association in Cleveland on December 28, 1948.

THE POSTWAR EXPANSION OF BANK LOANS

The revival in commercial bank lending has attracted attention for several reasons: (1) it had been assumed by many that the decline in the importance of bank lending since 1920 had become permanent; (2) because the liquid asset holdings of business and individuals were so large at the end of the war, it was believed that there was little need for borrowing; (3) the widespread bank borrowing by business, consumers, and home buyers; (4) to some extent, the techniques of making loans to business borrowers have changed.

The chief characteristic of postwar bank lending has been its diffusion throughout the economy. In terms of percentage increases, the changes have been relatively large but in relation to the magnitude of other economic changes, outstanding loans are not great. This is in contrast to the experience during the years 1919-20 when loan expansion was concentrated in business loans largely associated with increasing inventories, and during 1928-29 when the principal increase was in loans on securities. Between December, 1945, and June 30, 1948, the loans of all insured commercial banks increased as follows:

	Amount Outstanding December 31, 1945 (millions of dollars)	Change (millions of dollars)
Commercial	9,461	+8,373
Agricultural	1,314	+ 662
Loans for purchasing or carrying securities:		
to brokers and dealers	3,164	—1,981
to others	3,606	—2,529
On real estate	4,677	+5,424
Consumer loans	2,361	+4,051
Other loans	1,181	— 62

Studies by the Division of Research and Statistics of the Board of Governors of the Federal Reserve System indicate that banks of all sizes in all parts of the country participated in this expansion. Borrowers were representative of all types and sizes of business. One of the developments in the field of business loans which has attracted attention has been the practice of making term loans. In a study of business loans outstanding on November 20, 1946, Albert R. Koch estimated that approximately one-third of the total amount had an initial maturity of over one year.[1] Term loans were found to be popular among small and medium-sized businesses of nearly all types although naturally the larger percentage of the total was made to the larger concerns. The important conclusion

[1] Albert R. Koch, "Business loans of Member Banks," *Federal Reserve Bulletin*, March, 1947.

from these and other studies is that the expansion of bank loans is a result of a widespread demand arising from all sections of the economy. The demand for loans, in turn, is associated with a postwar boom initially not dependent on bank borrowing. This fact is often neglected although it is basic to the understanding of the effects and control of bank loans.

The Role of Bank Loans

Deposit expansion aside, expanding bank loans have no different effect upon the debt structure or individual markets than loans made by other institutions. For all types of loans which have increased since 1945, banks are in competition with other lending institutions some of which hold larger amounts of specialized debt than do the banks. Hence all lenders have responsibility for any deterioration in the quality of the debt structure, and any proposal to regulate bank loans in order to improve the quality of the debt structure or to influence prices must consider non-bank lenders as well as banks. Further, prices are also affected by buyers who do not need to borrow as well as by those who do.

The role of bank loans may be made clear by reference to certain studies. For example, an estimate of the sources of funds used by business to expand fixed and working capital in 1946 and 1947 shows that 12 and 11 per cent, respectively, came from bank loans.[2] Security issues accounted for 10 and 18 per cent in 1946 and 1947 respectively. Approximately 60 per cent of the $27,000,000,000 of new funds used each year came from internal sources. It is significant that during 1946, when the postwar expansion was just starting, 24 per cent of the funds were obtained by a reduction in liquid assets, but in 1947 only 2 per cent were thus obtained. Another study indicates that the business loans of weekly reporting member banks increased during the first ten months of 1947 by $2,249,000,000 and the securities of business and industry held by life insurance companies increased by $1,881,000,000.[3] Both this and the Federal Reserve study indicate that financing through security issues became relatively more important after 1946. During the first ten months of 1948, business loans of weekly reporting member banks increased by $584,000,000, while securities of business and industry held by life insurance companies increased by $2,563,000,000. The latter figures also indicate that the relative positions

[2] "Recent Developments in Business Finance," *Federal Reserve Bulletin*, June, 1948.

[3] *Monthly Letter*, National City Bank, November, 1948.

of banks and insurance companies as suppliers of business funds were reversed between 1947 and 1948.

It is evident that bank loans play only a part in determining the soundness of the debt structure or the prices of goods. How is one to know that a debenture sold in the open market is of better quality than a loan made directly by a bank or an insurance company? Or why is a bank loan of more significance in raising prices of scarce materials than other borrowed funds or funds obtained from internal sources?

The same is true of other loans and other markets. Much has been said in recent years of real estate loans. Yet so far as the banks are concerned the real estate loans of all commercial banks increased by $5,424,000,000 between December 31, 1945, and June 30, 1948, which was but little more than the increase in time deposits of individuals, partnerships, and corporations. Why is the investment of time deposits of commercial banks in real estate loans any more detrimental to the economy than a similar investment by savings banks, savings and loan associations, or life insurance companies?

The third field of bank loan expansion which has attracted attention is that of consumer borrowing. There has been an unprecedented growth in personal loans by banks. This is the culmination of a twenty-year evolution from the first experiments with this type of business by banks. Prior to the outbreak of the war only a few banks had ventured into this field. It has been only since 1936, for example, that legislation in New York State has made this type of loan possible. During the war, individuals had little reason to borrow. Hence, after the war a wider interest by banks and increased consumer demand combined to raise the proportion of consumer loans outstanding in all insured commercial banks from 35 per cent at the end of 1945 to 46 per cent of total consumer credit in June, 1948.[4]

Controlling Loans to Improve the Quality of the Debt Structure

It is clear from the foregoing analysis of the role of bank loans that any concern for the quality of the debt structure occasioned by the expansion of bank loans must extend to all lenders. Banks have been warned by supervisory agencies and the American Bankers' Association to curtail speculative loans, to avoid the overextension of consumer credit, and to avoid overappraisal of real estate. Regu-

[4] *Federal Reserve Bulletin*, November, 1948.

lation "W" has been revived to curb consumer loans. Although advice and some regulation may assist in improving lending practices, the soundness of a loan is fundamentally the responsibility of the lender and the borrower who are the immediate sufferers from unsound practices.

At best, regulations can have only limited effectiveness. They are easier to apply where a down payment or a maturity is involved. Even such regulation may be largely formal. For example, the limitation of real estate loans to 60 per cent of appraised value does not control either the quality of the appraisal or the financial strength borrower. It in no way assures that only borrowers who have the ability to repay the resulting obligations will get into debt. Further, whatever loan requirements may be set by regulation, there is no assurance that the individual borrower will not undertake more instalment contracts than he can carry, and unsecured loans to business and consumers are not touched at all. This is necessarily so, unless every borrower is to have a maximum loan limit set by regulation. Thus, the larger questions of lending policy remain the responsibility of banks and other agencies.

All lenders have a further responsibility which is related to the general economic effects of lending policies. This is the responsibility to use their loan policies in the interest of economic stability. A period of laxity followed by a sudden change to firmness is to be avoided. There is some evidence that policies may be undergoing such a change even now. The effects of such actions are particularly serious in markets customarily patronized by borrowers such as housing and automobiles.

Controlling Loans to Control Specific Markets

It is this potential effect of loans on specific prices which has led to the proposal currently popular to limit loans in order to control prices. In addition to the limitations of loan regulation discussed above, there are aspects of regulation for the sake of the price effect which make such regulation undesirable and probably unsuccessful.

In the first place markets are made by three groups of buyers: those who borrow from banks, those who borrow from other lenders, and those who do not borrow at all. It is possible for rising prices not to be associated with borrowing. The farm real estate market is a good example. Although the price of farm products

and farm lands has risen, there has been no suggestion in recent discussions that these have been caused by borrowers. Farm loans, actually, have been reduced. In other words, non-borrowed money can have the same effect on prices as that which is borrowed.

Secondly, it is difficult to justify the exclusion of borrowers from a market in the interest of a reduction in a specific demand. So long as the terms of credit are sound, the field should be open to all. In the field of business loans, for example, restriction would favor existing firms over new ones. It would not distinguish between the progressive or efficient and the others. Furthermore, there is no assurance that the firm which can plow back earnings is making any more economic allocation of resources than the one which borrows.

Thirdly, the quantitative effects of loan regulation on demand are very uncertain. If the regulation of lending practices is only as restrictive as sound credit policy would dictate, then a larger number of borrowers could meet the regulation in prosperous times than in depression. This effect could be partially offset by altering the regulation with the times. While this might seem to be the correct policy, its implementation is confronted by two difficulties: (1) a hesitation to increase the severity of the regulation when necessary, (2) the difficulty of setting appropriate terms. The F.H.A. regulation of home loans illustrates the first difficulty. During the 1930's terms were so set as to stimulate home buying. It is reasonable to assume that this change had the desired result. However, the terms were not altered during the postwar boom although many admonitions were given against overlending and overappraising.

The second difficulty is illustrated by margin requirements on security loans. We may assume that a 75 per cent margin is higher than necessary for a conservative loan. But by what means has it been determined that 75 per cent is the "right" margin and what price change would be caused by dropping the requirement to 50 per cent? One can only wonder how agricultural prices would be affected by the adoption of the proposal to set margin requirements in commodity markets. It is only necessary to ask these questions in order to estimate the efficacy of loan regulation as a means of influencing specific markets.

Finally, in markets where lenders other than commercial banks play important roles, effective quantitative restrictions would have to apply to all lenders. The cases of real estate, consumer, and

business loans are in this category. The total of consumer loans could not be limited by restricting only bank loans, for personal loan companies or sales finance companies could meet the demand by obtaining funds through the sale of debentures. To the extent that these were bought by commercial banks, the result would be the same as an expansion of bank loans in the first place. Or again, savings banks, life insurance companies, savings and loan associations, etc., could meet the demand for real estate loans by selling government securities. To the extent that these were bought by commercial banks, the effect on the real estate market would be the same as if the banks had made the loans in the first place.

Overall quantitative restriction of loans, market by market, would pose serious questions: (1) what loan total will accomplish the desired price effect in each market? (2) how is this total to be allocated to lenders? (3) how is it to be allocated to borrowers? Rather than attempt to answer these questions, those who prefer a dictatorship to a free economy would find direct price control, rationing, and allocation more simple. The latter program would at least have the virtue of offering the possibility of greater equity as between buyers who must borrow and those who do not.

To summarize the discussion to this point, we have concluded that bank loan policies in the postwar period have had no different effect on the economy or present no different problems from the loans of other agencies. It is always necessary to bear in mind the quality of debts during any period of loan expansion. To the extent that regulations can set minimum quality standards for specific types of debt, they may be helpful. This is especially true when large amounts of funds seeking loans tend to reduce lending standards. Such regulations should apply uniformly to all lenders in the same market. Regulation, however, is not likely to be completely successful because all phases of debt cannot be covered. Fundamentally, then, the soundness of the debt structure is the responsibility of lenders and borrowers.

The effect of loan expansion on prices is indeterminate, and attempts to secure price effects through loan regulation will probably meet with failure.

Effect of Bank Loans on Deposits

We must conclude, therefore, that the chief cause for concern over bank lending policies is their effect on deposits. Aside from the fact that bank deposits can increase as a result of increasing loans, commercial banking is only a part of the mechanism through

which savings are made available to borrowers. When the demand for loans exceeds the supply of savings, at a given level of interest rates, rates will rise, or deposits expand, or both. It is evident that during the postwar years, the total demand for loans has exceeded savings. This has come as a surprise to many who were sure that savings practically always exceed the demand for loans in the modern economy.

It was pointed out above that in these circumstances, deposits could be prevented from rising by three methods: (1) by control of loan expansion; (2) by holding total bank reserves constant; (3) in the special circumstances of the postwar years, by a retirement of a sufficient amount of public debt to equate total new loan demand and new savings.

The undesirability of the first policy has been discussed above. If undertaken, it should be applied to all lenders. Specific restriction of bank loans might bear especially heavily on those borrowers for whom banks are the most logical source of funds. These are chiefly local business concerns of medium and small size.

The Federal Reserve authorities have held that the second policy cannot be pursued without causing an increase in the interest cost on the government debt. Hoping that a change in the reserve structure might make possible the accomplishment of both objectives (i.e., restraint of deposit expansion without rising interest rates), several proposals have been made by Federal Reserve officials and others. These are not likely to be successful, as will be shown below.

The third policy, then, is the only one which holds the possibility of restraining deposit growth without causing a rise in interest rates. The Treasury has been partially successful in accomplishing this objective during the postwar years. Between December 31, 1945, and June 30, 1948, the government securities held by all insured commercial banks decreased by $25,422,000,000. Most of this reduction, $21,688,000,000, was accomplished by a reduction of war loan accounts in commercial banks which represented un-needed deposits acquired by the Treasury in the last war loan drive. Since the government retired bank-held debt by a larger amount than the reduction in war loan deposits, banks were enabled to acquire additional assets totalling $3,734,000,000 without increasing deposits. However, loans and securities other than those of the United States government increased by $15,407,000,000. Some of this increase represented the investment of additional time deposits

and capital funds so that the net increase in demand deposits other than United States government was $7,272,000,000.

To what extent a further increase in deposits will be a problem is uncertain. There is some evidence that the upward trend ceased during the latter half of 1948. Budgetary prospects suggest, however, that it is not certain that further retirement of federal debt will be possible in the next year. Yet, should loan demand continue to increase, the prevention of further deposit expansion without rising interest rates can be accomplished only by such action.

Bank Lending and the Reserve Structure

That this is so can be shown by an analysis of the relation of bank lending to reserves. It must first be made clear that increased bank lending, per se, need not automatically increase deposits. If reserves are held constant, the banks will dispose of other assets (government securities) in order to meet the increased demand for loans. The types of loans which are increasing may be those which banks are especially experienced and equipped to make, or borrowers may find other banks more convenient or otherwise preferable. To restrict or prevent the loans from being made may cause unnecessary hardship to borrowers. If total current savings are at least equal to total current demands of borrowers, the assets sold by banks will find their way into hands other than those of the Federal Reserve Banks. Flexibility of interest rates is essential to accomplish such redistribution. Hence deposit expansion becomes a problem only when total borrowing demand exceeds current savings.

That there was any need for an expansion in the nation's money supply after December, 1945, can hardly be defended. Adjusted demand deposits plus currency outside of banks nearly doubled between June, 1942, and the end of 1945. Rather than being stabilized at this high level, to say nothing of a possible contraction, the money supply increased by another 10 per cent during the next two years.

Federal Reserve officials have maintained that they have been powerless to prevent this increase without causing a rise in interest rates on government securities. This being so, there was only one method by which the increase in deposits could have been prevented. This was through additional debt retirement by the Treasury as has been demonstrated above. However, the issue has been clouded by assertions that the loan and deposit expansion could be

prevented without rising interest rates (at least on government securities) through an alteration of the commercial bank reserve structure.

Three separate but interrelated ideas have been associated with recent proposals to change the reserve structure of commercial banks: (1) by freezing government securities in commercial banks, access to additional reserve funds can be denied; (2) by increasing the percentage of required reserves to deposits, multiple deposit expansion can be prevented; (3) by separating the deposit and loan functions of commercial banks, the Federal Reserve Banks will have a more certain control over deposits. To obtain this latter result, it has been suggested that reserve requirements be raised to 100 per cent.

Fundamental to all three proposals is the question whether loan expansion can be curtailed without rising interest rates. If the demand for loan exceeds the supply of savings so that the total demand can be satisfied only by an expansion of bank deposits, any method of restricting this expansion through reserve manipulation will cause interest rates to rise. This rise could be avoided only by direct control of loans as discussed in the first part of this paper. But a general rationing of loans is a high price to pay for bank deposit stability.

Also fundamental to all reserve proposals is the question, "Can the government securities market be insulated against rising interest rates in other markets?" It is quite probable that interest rates could be fixed on any government bonds which are frozen in the hands of present holders who are also required to replace maturing obligations by equal amounts of new issues. Sales or redemptions would have to be entirely at the discretion of the government. Any marketable issues which were not frozen would follow the general trend in interest rates. Hence, a simple requirement that commercial banks must hold an amount of government securities equal to a prescribed percentage of deposits would fix the interest rate on only those securities which are frozen, provided that the same type of securitiy was not held by others. If the regulation were effective and the satisfaction of demand for loans through deposit expansion prevented, interest rates on private debt would rise. Other lenders seeking to employ their resources more profitably would sell any unfrozen government securities whose yields would respond to the general market.

It should be noted that to be effective in preventing reserve and deposit expansion, the freezing of government securities in com-

mercial banks would have to be supplemented by restrictions on reserve creation through rediscounting or borrowing at Federal Reserve Banks.

Had bank deposit expansion during the postwar years been restrained through control of reserves, recent financial history would have been considerably different. While the full effects of such a policy cannot be predicted or reconstructed, *ex post facto*, they probably would not have been so serious as to cause "the bottom to drop out of the government bond market." At least, a less dogmatic attitude during the early postwar years toward the yields on government securities would have permitted some experimentation earlier in the period to learn what could be accomplished. The risks involved in control of reserves could only have been avoided through adequate retirement of government debt. It is fortunate that some funds were available to the Treasury for debt retirement because the effects of fiscal policy are more gentle. They are spread throughout the economy, whereas the control of reserves operates with full force on loan markets only.

Multiple Deposit Expansion

The problem of control of deposits has been confused by the claim that a fractional reserve system results in multiple deposit expansion. Hence proposals have been advanced to raise reserve requirement on demand deposits even to 100 per cent to reduce the multiple expansion. This confusion has been unfortunate, for the percentage reserve requirement has no bearing upon the amount of deposit expansion. The amount of deposit expansion depends upon the loan demand and the willingness of the Federal Reserve Banks to permit the banks to meet it.

The arithmetic is simple. If bank loans expand and the banks sell government bonds, deposit expansion can be avoided by Federal Reserve refusal to purchase the bonds. It makes no difference whether reserve requirements are 20 per cent or 100 per cent. If the total amount of current savings are adequate to meet total current loan demands, the government securities will be bought by others without pressure on yields.

If, however, there is a loan demand which the Federal Reserve feels must be met by deposit expansion in order to keep the government bond market stable, deposit expansion can easily be held to the amount which has been determined to be "right." Let us suppose

that insurance companies sell $100 of government securities in order to make loans to business. Further, suppose that $100 is the full increment of loan demand. The Federal Reserve authorities decide that bank deposits must increase by $100 in order to stabilize government bond prices. The Federal Reserve Banks buy $100 of government securities thus increasing bank deposits and reserves by $100. At this point the banks would have $80 of excess reserves if a 20 per cent ratio were required. Critics of fractional reserve requirements assert that deposits can now be expanded to $500. But this will only occur if there is an additional demand for loans of $400. The expansion is not automatic. If there is a total demand for $500 in loans, then the first assumption above is incorrect and the additional demand for loans is not $100 but $500 and the federal reserve authorities simply face a different problem.

Returning, then, to the $80 of excess reserves created by the original purchase of $100 of securities, it is only necessary for the Federal Reserve Banks to resell $80 to absorb them. The banks having $80 of excess reserves and no additional loan demand will purchase the $80 of securities offered by the Federal Reserve thus retaining only sufficient reserves to meet the requirments for one $100 increase in deposits. The problem thus is seen to be the amount of deposit creation (inflation) necessary to stabilize the government bond market. This in turn depends upon the loan demand and not on the reserve ratio.

100 Per Cent Reserves

Bank loan policy cannot be discussed without facing the fundamental question of divorcing deposits from loans. The proposal to require 100 per cent reserves has this purpose.

Although such a requirement appears to accomplish the purpose of making changes in the money supply independent of changes in bank loans, it would, in fact, not eliminate any fundamental banking or monetary problem. As indicated above, given an increase in the demand for loans, the fundamental question facing the central banking authorities is the amount of such loan demand to be met by an expansion of deposits. The reserve ratio simply determines the amount of increased reserves needed to support any level of deposits. If the requirement of 100 per cent reserves were accomplished by freezing government securities in the banks, commercial banks would become branch offices for the Federal Reserve Banks

for any increased lending which the Federal Reserve Banks decided to permit.[5]

Some advocates of the 100 per cent reserve plan emphasize its supposed benefits during a period of recession. In this view, it is a defect of the monetary system that the money supply (bank deposits) decrease in recession. The contraction of deposits is believed to aggravate the depression principally through a resulting decline in prices. Deposit contraction, it is held, could not occur with 100 per cent reserves except by action of the central bank.

Unfortunately prices and depression are not so simply explained. They are determined by decisions to spend or not to spend in many fields by many buyers. Business buyers are influenced by a complex interrelation of costs and prices as well as government policies. Consumers are influenced by their state of want-satisfaction, incomes, and prices. Borrowers are similarly influenced. If total borrowing declines, or repayments increase or both, the effectiveness of savings as a demand for goods is reduced. If bank loans decline in a fractional reserve system, so will deposits. The reserve ratio is raised and the banks are in a position to restore loans to their original amount if borrowers are forthcoming. Under the 100 per cent system, loan repayments in excess of new lending would also inactivate money. Similarly, if savings bank loan repayments exceed new loans, cash balances will increase. In technical terms, it makes little difference whether M or V declines, the important change is in the attitude and actions of all buyers. Borrowers are after all only a part of national markets.

Conclusion

A substantial increase in bank loans during postwar years has attracted wide attention. Concern has been expressed that these loans have overstimulated certain markets. However, careful studies reveal that the increase in bank loans has been widespread throughout the economy and has been paralleled by increases in similar types of loans by other institutions. That is, bank loans are not different from other loans and are not highly concentrated as to market as was true of security loans during the latter twenties. They are related to a general postwar boom one aspect of which is rising prices caused by backlogs of demand supported by extremely liquid positions of farmers, consumers, and business.

[5]For a more detailed criticism of the use of government securities as bank reserves, see J. Brooke Willis, "Secondary Reserve Requirements," *Journal of Finance*, III (June, 1948), pp 29-44.

The unique aspect of bank lending is its effect on deposits. Postwar expansion following a doubling of the money supply during the war, has been considered inflationary. Vigorous efforts to control this expansion through control of reserves has been rejected by the Federal Reserve Banks in an effort to avoid rising interest rates on government securities. Other possibilities of controlling the deposit increases have been sought in direct control of loan expansion, alteration of the reserve structure, and retirement of government debt.

Direct control of bank loans has been found to be inequitable to banks and borrowers. It would also be ineffective unless regulation were extended almost to the point of rationing loans.

Alterations in the reserve structure, while having the possibility of insulating some government securities against general increases in interest rates, do not deal with the major issue of meeting an increased loan demand by expanding deposits. It is found that the problem is as difficult to cope with under one set of reserve requirements as another.

We must conclude, then, that inflation in the present era is the result of fiscal policy. The Treasury must be in a position to retire securities which the market will not absorb. To the extent that interest rate changes will assist in accompishing this purpose, they should be used.

From present indications, it appears that the problem of deposit expansion may continue to plague the economy. Economists will have an opportunity to render a useful service by focusing the attention of the public on the federal budget as the chief monetary problem.

NOTES ON FEDERAL RESERVE POLICY, AUGUST, 1945—JUNE, 1948

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As we all know, federal reserve policy since the end of the war has been, and continues to be, studied with great care by contemporary observers. It seems safe to predict that in the future economists and economic historians will continue to scrutinize reserve policy during this fascinating time span with at least the degree of intensity bestowed on such other critical periods as 1920-21 and 1927. What point in time future analysts will designate as marking the termination of this chapter is not yet evident; certainly the postwar phase of reserve policy does not yet seem to have come to an end. This circumstance is itself sufficient reason for not attempting at this time to formulate a definitive appraisal of postwar reserve policy.

The interest in the Federal Reserve System's line of conduct stems from a variety of sources. Issues of unusually great practical importance in the financial and business world have hinged on the actions of the reserve authorities. Wide diversity of opinion has existed regarding the wisdom of certain courses that have been pursued—and indeed, such diversity continues to be voiced. The conditions under which the reserve authorities have operated—largely engendered by the Second World War—are for the most part without parallel in the history of central banking in this country. Many of the mechanisms and maxims of the 1920's and 1930's, for example, are as far removed from the area of what is presently practical as are some of the objectives of those decades from present thinking. Essentially what has been and continues to be at stake is the definition of the place and function of a central bank in a rigidly controlled money market, even admitting that part of the control is exercised by the bank itself.

What are the major elements of this new postwar frame of reference within which central bank operations have been, and are being, conducted?

Of the first order of importance has been the management of the federal debt, which at its peak was close to $280 billions and which has not fallen below $250 billions. Since the sum of debt redeemable on demand and of debt maturing within twelve months or less has consistently been approximately 50 per cent of the total, the ability continually to refund Treasury obligations on favorable terms has necessarily been the chief concern of fiscal authority.

Under such circumstances a regulated, stable market for government securities has been, at least in the eyes of persons carrying the responsibility, a necessity.

A second element in this frame of reference has been the rise outside the central bank—a rise which began prior to the war—of very significant mechanisms of monetary control. While economists have always given weight to the size of the Treasury's surplus or deficit, we must, in the brave new world of postwar finance, include within the scope of analysis variations in the size of the Treasury's cash balance, not forgetting to note the amounts located respectively in reserve banks and in member banks. Open-market operations of the Reserve System, in an earlier day were looked on as the cardinal method of regulating the reserves of member banks; more recently their effect has been supplemented by the administrative discretion regarding reserve requirements given to the Board of Governors. In the postwar period a new factor appears: purchases and sales of marketable Treasury securities by government agencies and trust funds. In somewhat similar fashion the significance that once attached to the rediscount rate as a basic money market rate has since the war been partially appropriated by the rates attached to new issues of Treasury securities. Nor, in surveying the dilution of the Reserve System's position, should we overlook the growth of government agencies, particularly in the fields of agricultural and mortgage financing, that are in a position to extend credit or insure credit extended by others virtually without reference to reserve policies. Clearly the day has passed—if, indeed, it ever existed—when operations of the reserve banks could be looked on as the transcendent method of credit control, or when mistakes in monetary management could be laid only at the door of the reserve authorities.

A third factor of consequence in the postwar financial situation has been the new element introduced into property management, partly by the fact that the government has an enormous debt, partly by the fact that prices of Treasury security issues have been stabilized. Numerous results have followed from these circumstances, one of which we must recognize here: for many persons, trustees, treasurers of business corporations, and portfolio managers, government security holdings have become virtually a second cash account. The easy access to cash which the government portfolio has afforded, and, conversely, the ability and the temptation to convert cash—a non-earning asset—into a riskless earning asset, a possibility provided by the pegged market, have widened

the range of feasible procedures in private financial management. One consequence of thus increasing the alternatives open to the private financial manager has been to make appreciably more difficult the adjustment of credit to the legitimate needs of the economy.

No account of the conditions under which Reserve policy has been formulated since V-J Day would be complete if it omitted reference to the very great demand for money that has been felt by financial institutions and by the capital markets, particularly since this demand in the summer of 1945 was, in many quarters, not anticipated. Commercial loans of banks approximately doubled between V-J Day and June, 1948, the volume of new money corporate securities offered in the public markets spurted far above any levels seen since 1929, and the quantity of capital raised by business firms through "private placements" grew so great as to become a matter of concern to the fiscal authorities. In short, the demand for funds was so large as to become a threat to continued stability in the ownership pattern of the federal debt upon which successful debt management depended.

By and large the postwar situation may be described as one in which the course of events has abridged the powers of the Reserve System, one in which, as compared with circumstances twenty years ago, the portion of the financial system directly sensible to stimulative or restrictive measures on the part of the Reserve Banks has contracted. During the postwar period, the policy pursued by the Reserve authorities has had two main purposes: control of an inflationary situation and stabilization of the market for Treasury securities. On their face, if not in fact, these goals have been self-contradictory. The justification for this double objective has lain partly in the compulsions inherent in the situation in which the System found itself, partly in the fact that the results of the System's actions have been of manifest political consequence, both at home and abroad. And it may be that future commentators, attempting to delineate the forces that shaped policy during this time when the relation of the central bank to the state was at stake, will determine that the rise of this issue was accompanied by an increasing uncertainty as to the criteria that separate "political" and "economic" considerations in monetary management.

In what terms is Reserve policy during the postwar period best described? What kinds of action, what continuing threads of evidence best illustrate the course of events? Unfortunately it is not

possible to outline what happened by following three or four, or even five or six, elements of so-called "major" consequence. The pattern has been too confused; too many considerations have been present to allow the story to be told in this way.

Between August, 1945, and June, 1948, total Federal Reserve credit remained relatively stable, within the limits of $24.7 and $21.0 billion. The major portion of Reserve credit, of course, was the System's portfolio of government securities which, pursuant to a long series of policy actions by the Federal Open Market Committee, remained within the comparatively narrow range of $24.2 and $20.3 billion during this period.

This relative degree of stability in total holdings of the Reserve System, however, cannot be properly interpreted unless viewed in connection with attendant circumstances. Three of these that merit close attention were: the System's policy of controlling the government security market; the fact that during the greater portion of the period under review the Treasury had funds available for retirement of the federal debt; the changes in the Reserve System's own portfolio of government securities that were at least in part induced by the policy of market support. While these circumstances cannot here be considered in any detail, a few observations regarding them are necessary in order to place them in perspective.

If the Treasury had not had surplus funds more or less continuously on hand it is doubtful whether the Reserve System could have pursued its policy of market support without increasing the total of Reserve Bank credit outstanding. In view of the inflationary pressures present during this period, such a development would have been unfortunate. Thus the ability of the Reserve to pursue this policy in a sense was fortuitous.

The funds available to the Treasury for the retirement of marketable debt came from a variety of sources that in an economic sense are qualitatively different. In a thoroughgoing analysis the effects of using these different types of funds would need to be fully explored. Here we can only note that the moneys used were obtained through overborrowing in the eighth war loan in 1945; from the continuous sale of nonmarketable obligations (chiefly E, F, and G bonds and special issues); from funds available because of a budgetary cash surplus; and from funds available because of a surplus in the administrative budget. There is, of course, some overlapping among these four categories.

Although Reserve authorities were able to maintain a policy of market support without appreciably expanding Federal Reserve credit, the policy did result, particularly at the end of 1947 and the beginning of 1948, in considerable changes in the maturity pattern of the Reserve's own portfolio of Treasury obligations. Until the end of 1947, when the support prices in the Treasury yield curve were lowered, virtually all of the Reserve's holdings of government securities had a maturity of 12 months or less. Prior to December, 1947, Treasury bonds at no time amounted to as much as 5 per cent of total holdings, and of the bonds held, those with less than a year to run were a substantial fraction. The reasons for this extreme lack of balance in the Reserve's own portfolio, and some of the consequences that followed from it at certain times—as in the early months of 1946 and again in the summer of 1947, when policy was directed toward keeping the prices of the long-term securities from rising—are topics in the postwar history of reserve policy that, however interesting in themselves, cannot be dealt with here. In any event, bond holdings of the System advanced sharply in December, 1947, to $2.8 billion, and by June, 1948, amounted to $6.2 billion, some 30 per cent of the total System portfolio. This was a radical change.

The emphasis commonly given to the Reserve System's policy of stabilizing the government securities market has perhaps overshadowed other aspects of the whole debt management problem which not only contributed to that policy but on their own merits deserve some attention. In particular I refer to: the assistance afforded to Reserve policy by the Treasury through purchases and sales of marketable securities for the account of government agencies and trust funds; the extent to which terms attaching to new issues of government securities were employed as a means for adjusting the Treasury yield curve and, indeed, all money market rates; and variations in the yield curve itself.

The volume of marketable Treasury bonds in the hands of government agencies and trust funds following the eighth war loan rose to a peak of $6.9 billions in December, 1945. Thereafter they remained relatively constant during the first three months of 1946. Between April and December, 1946, however, they declined nearly $700 million. The sales began virtually at the same moment that the dramatic post-eighth-war-loan rise in the government market came to an end, and their initiation coincided closely with a number of developments in April and May, such as the withdrawal of the ½ per cent preferential discount rate on borrowings secured by

Treasury paper, which suggested that a turning point in the level of interest might have arrived. Presumably the sales contributed to the weakening in long-term bond prices that continued throughout 1946. More than two-thirds of the bonds sold in this operation were thought to have come from the Government Life Insurance Fund.

Again in 1947, during the first three months of the year, the volume of marketable securities in the hands of government agencies and trust funds remained comparatively constant, but in April heavy sales began. This selling, which continued during June and July when the fixed rate of ⅜ per cent on Treasury bills was abandoned, did not come to an end until October, at which time approximately $1.9 billion of long-term obligations had been sold, most of which seem to have come from the Federal Deposit Insurance Corporation and the Postal Savings System. This liquidation terminated virtually at the same time that moves were undertaken, in September and October, that raised the certificate rate to 1 per cent. Almost as soon as selling for the account of government trust funds ceased, the movement was reversed and heavy purchases began. Between October and December more than $900 million of bonds were bought back, and the buying continued after the turn of the year as the market felt the impact of the lowering of the support prices on Christmas eve. By February, 1948, government agencies and trust funds held $5.3 billion of marketable Treasury securities, an increase of $1.1 billion since October. Much of this buying seems to have been done for the account of the Federal Old Age and Survivors Insurance Fund and the Unemployment Trust Fund.

Clearly these stabilizing operations undertaken by the Treasury must be read in conjunction with concurrent open-market operations of the Reserve, and with the Board of Governors' admitted policy of supporting the prices of federal securities. Equally clearly the termination in the summer of 1947 of the Reserve Banks' fixed buying price for Treasury bills on a ⅜ per cent basis, and the cessaton of the Banks' repurchase option, must be viewed in connection with the changes made the following fall by the Treasury in the terms on which certificates were offered. The proper interpretation seems to be that these two operations were in fact part of a sequence of steps designed to raise short and intermediate term Treasury rates and, ultimately, the entire interest rate structure.

While in the long view of historical perspective it may appear that changes in the level and structure of yields of Treasury secur-

ities during the period covered by this study were not appreciable, such an opinion is likely to be misleading. In the first place, slight as the rise in the general level of rates may have been, the change that came in the spring of 1946 marked a turning point in a sixteen-year decline in the levels of rates. In the second place, the change in the structure that took place during 1947 was the first substantial change in the wartime pattern that had been established in 1942. In the third place, although the rate on 90-day money had not risen above 1 per cent even as late as June, 1948, it was then nearly three times as high as it had been in August, 1945. Finally, and perhaps most importantly, even though the variations in yields in terms of basis points were small, in view of the tremendous dollar magnitudes involved these small percentage variations were of enormous consequences to the portfolio managers in financial institutions as well as to the Treasury itself. In Table I is indicated the structure of rates of Treasury securities at what appear to have been critical times during the period covered by this study.

TABLE 1

YIELDS OF TREASURY SECURITIES—
SELECTED DATES, OCTOBER, 1945 TO JUNE, 1948
(Percent Per Annum)

BILLS	Oct. 1945 .375 (per cent)	Mar. 1946 .375 (per cent)	Nov. 1946 .876 (per cent)	Aug. 1947 .748 (per cent)	Dec. 1947 .950 (per cent)	June 1948 .998 (per cent)
Certificates—9-12 mos.*†	.83%	.79%	.84%	.85%	1.04%	1.09%
Bonds—3-5-year taxables*....	1.17%	.99%	1.22%	1.31%	1.54%	1.49%
Bonds—7-9-year taxables†‡..	1.50%	1.28%	1.60%	1.54%	1.86%	1.89%
Bonds—15-year taxables†‡....	2.35%	2.09%	2.25%	2.24%	2.39%	2.41%
2½'s of 9/15/67-72‡.....	2.16%	1.98%	2.20%	2.10%	2.43%	2.38%
2½'s of 12/15/67-72‡.....	§	2.19%	2.38%	2.32%	2.48%	2.48%

We turn now to another facet of Reserve policy, the use of direct credit controls. Toward the end of the war and in the early postwar period, considerable attention was given to what the Reserve authorities might accomplish through selective, or qualitative, credit control. In fact, the use of such controls has been confined to regulating consumer credit, margins required for dealings in registered securities, and reserve requirements of member banks, that is, to changes in Regulations W, T, U, and D. There is, of course, a question whether alterations in the required reserves

*_Federal Reserve Bulletin_, "Open Market Rates in New York City"—monthly figures are averages of weekly prevailing rates; 3-month bills—rate on new issues offered within period.

†_Federal Reserve Bulletin_, "Bond Yields"—averages of daily figures.

‡_Treasury Bulletin_, "Market Quotations"—for over-the-counter closing quotations in New York market for last trading day of the month, as reported to Treasury by Federal Reserve Bank of New York.

§Not issued as of this date.

of commercial banks are, in the strict sense of the term, an exercise of qualitative credit control.

What was, in fact, accomplished in the area of consumer credit by the sequence of changes in Regulation W is not entirely clear. The relaxation of these controls in the autumn of 1945 came at a time when the fear of a postwar depression was very real; the expiration of these controls in November, 1947, which was contrary to the expressed wish of Reserve authorities, occurred in the midst of the long series of moves that, after advancing the rate for one-year money in September and October, culminated on Christmas eve in the lowering of the support prices for Treasury bonds. The expiration of these controls on November 1 was followed on November 24 by a statement, issued jointly by the Board of Governors, the Federal Deposit Insurance Corporation, the Comptroller of the Currency, and the Executive Committee of the National Association of Supervisors of State Banks, that urged commercial banks to pursue conservative lending policies.

The reasons that led, in January, 1946, to the increase in margin requirements to 100 per cent are, presumably, to be found in the behavior of the stock market, although this change in Regulations T and U took place during the spectacular rise of the government bond market that followed the eighth war loan and which ended in the early spring of that year. Presumably the reduction in margin requirements thirteen months later, in February, 1947, was partially induced by the break in the stock market in the preceding fall.

The increases in reserve requirements during the first half of 1948, effected by alterations in Regulation D, presumably were an outgrowth, at least in part, of the pressure upon the Reserve authorities to absorb long-term government bonds that followed the lowering of the support prices on Christmas eve, 1947. Certainly the character of the Reserve System's own portfolio was changing very rapidly during this time. While it was currently alleged that the Reserve authorities wished to deter an undue increase in commercial bank loans, the actual tempo of the expansion of bank credit was then appreciably lower than in the preceding year.

This discussion of the procedures followed by Reserve authorities during the period of this study may be summarized as follows: a wide variety of measures was used; the several mechanisms were carefully correlated and employed with great care; the evident purpose was to achieve a substantial degree of stability in a number of markets simultaneously.

What has, in fact, been the effect of Reserve policy? What results has it achieved? As indicated at the outset of this paper, it is as yet too soon to form definite judgments.

The outstanding business, financial, and economic fact of the postwar period to date, however, is clear. For something over three years, notwithstanding the doleful prophecies that began during the war, we have had an enormously successful economy. True, the record has not been perfect. Too large a percentage of the national income has been taken by the tax gatherer. There has been, as indeed there has been for twenty years, a disturbing shortage of equity capital. Prices have risen too fast and too far, though surely some of the 60 per cent advance in the wholesale price index is attributable to the wholly abnormal agricultural conditions of 1947. On the other had, we have had full employment and something more. At no time has the number of employed persons dropped below 59 million. The reserve index of production has not been below 152, and since October, 1947, it has been above 190. At all times national income has been at an annual rate of $168 billion or better; currently it is close to the $250 billion level; and the standard of living of the country has been rising. Gross private domestic investment, which in the third quarter of this year is estimated to have taken place at an annual rate of $39 billion, and business expenditure on new plant and equipment, which apparently will be $18-$19 billion for the calendar year 1948, have been at record-breaking peacetime levels. Corporate profits, though their growth has hardly kept pace with that of national income, have reached unprecedented dollar magnitudes, magnitudes so large as to be a matter of public inquiry The federal debt has been reduced upwards of $27 billion, off 10 per cent from the peak. Tax rates have been lowered. In short, according to the great majority of tests with which I am familiar, the record of the economy since V-J Day is one on which we may justifiably congratulate ourselves.

All this has been accomplished during a period when the powers of the Reserve System were, admittedly, attenuated, and influenced directly a much smaller portion of the country's financial system than formerly was the case. All this has been managed while we were seeking to find the proper place and function of a central bank in a rigorously disciplined money market. All this has been achieved during a time when critics of Reserve authorities alleged, and to my mind cogently, that Reserve policy was contradictory and self-defeating. All this has been contrived during an interval when Reserve authorities were among the foremost to state, and

within the limits within which their policy was formulated I would agree, that their powers were inadequate for their responsibilities, for the accomplishment of their mission.

Clearly there are paradoxical elements in such a situation, in the successes achieved by the economy, and in the dissatisfaction with the part played by the Reserve System. We can discern most, perhaps all of these paradoxical elements, but their ultimate significance is as yet obscure. We must, I think, leave for the future to determine what part of the record since V-J Day is attributable to Reserve policy and to what extent the successes of the last three years have been achieved because of, or in spite of, the actions of the Reserve authorities.

DISCUSSION

R. J. SAULNIER*: The three papers[1] that have just been read reflect in an interesting way the basic current issue of public policy in the field of finance, namely, whether we are to have a free or a controlled money market. Professor Graham takes a perfectly clear position on this issue. He presents a strongly worded indictment of our policy in the field of international finance. In his view the International Monetary Fund should, as a minimum measure, be radically transformed, and I gather that he would enter no protest, certainly not a vigorous one, if it were discarded altogether. This is a bold position, indeed; it has the merit, however, of being perfectly clear. He uses a medical analogy in his argument, and, while I am not certain that I grasp its full meaning, it is apparent that he regards the current "allergy toward flexible exchange rates" as an ailment far more dangerous than that psychological disturbance to which economists, bankers, and statesmen were formerly accused of being victims, when reference was made to the "fetish of the gold standard." Whereas the earlier attachment to the gold standard led us, according to the critics of that system, into deflationary paths, all this has been replaced by an arrangement that is fundamentally partial to inflation. I take this to be the basic significance of Professor Graham's paper, namely, that we have surrendered, in our international financial policy, to the inflationists.

With better luck I might have had the counterpart of this view in at least one of the two papers on domestic financial policy. It

*Barnard College, Columbia University.

[1]Professor Frank D. Graham's paper, "Exchange Rates: Bound or Free?" the first of the three papers, appeared in the March, 1949, issue of this *Journal*.

would not be difficult to argue, as so many have in recent years, that we have developed a comparable allergy in the domestic field. In this area of public policy the mere mention of a flexible interest rate is a most upsetting experience for increasing numbers of professional economists, public officials, and bankers. True, some would accept a one-way flexibility—always down—but the notion that the interest rate might be allowed to rise is an exceedingly unpopular one. All kinds of disastrous consequences would result, so the story goes, if we were to allow the interest rate to perform its traditional role of rationing credit. I have some doubts in my mind whether the allergy toward flexible exchange rates is in fact a necessary surrender to the inflationists but there is little doubt about what the allergy toward flexible interest rates means in the field of domestic policy. Here the determination to maintain the price of government bonds in a situation swelling with inflationary pressures has stripped our monetary authorities of the controls they must have if they are effectively to exercise their traditional anti-inflationary weapons. In this respect we have capitulated to the inflationists. Interestingly enough, while there is no indication that either professor Dunkman or Professor Abbott suffer from this particular allergy they express no great concern over the fixed interest-rate policy. Certainly they show no evidence of sharing Professor Graham's abhorrence of fixity.

Professor Abbott seems to be satisfied, in general, with postwar federal fiscal and credit policy. He does not regard the postwar phase as yet finished, and, accordingly, is deferring his judgment on the whole period; but the general tenor of his remarks is one of commendation for a difficult job well done. Perhaps I am unjustified in making this further statement but I could find no evidence that he viewed the future with any particular concern. I find no disposition to blame the monetary authorities for our postwar inflation nor to prejudge their responsibility for the deflationary phase which seems about ready to succeed it. The general impression which I get from his paper is that everything has been done remarkably well and that we are doing fine, so far. This is a far more charitabe view, indeed, than Professor Graham's indictment of our international policy. Either Professor Graham's allergy is more imagined than real, or its victims do not recognize the ailment in its mild forms or, to be uncharitable, in its early stages.

Professor Abbott's view is perhaps permissible if we take the levels of output and employment as our main criteria of success. By these measures we can say that our postwar financial policy has

been one in which we can find considerable satisfaction. We have avoided, although only very narrowly on two occasions and largely because of a revived armaments program, the postwar depression which was repeatedly forecast. We have allowed nearly everyone in the community—there are few, if any, exceptions—to participate in the exhilarating experience of having his wages increased, although this satisfaction has been dimmed somewhat for many individuals by the fact that money's buying power has fallen faster than their incomes have risen. But surely the significant fact is that we are now teetering on the very brink of a deflation and that we have been brought to these dizzy heights by a monetary policy which has consistently placed the government's ability to sell more debt above the objective of stable prices. It is most assuredly too soon to judge our postwar financial policy. Next winter's meetings will, I expect, provide a better view.

Professor Dunkman's paper is somewhat difficult to appraise in terms of this major economic question. But I had the feeling that he was concerned about certain problems that I do not regard as of great importance. He protests, and I think very rightly, against proposals to regulate bank loans in order to improve the quality of the debt structure. Quite possibly I have not been completely alert to current political discussions, but I have not been aware of any great enthusiasm for this type of credit policy. There has, to be sure, been a great deal of criticism of debt per se, at least of private debt; and proposals have been made to increase the use of equity funds in business. But these proposals are quite outside the realm of central banking policy. It has been my observation that, aside from the exhortations against "speculation" that always accompany an inflationary period, there has been far more concern over the *quantity* than over the *quality* of bank credit. Indeed, the quantitative theorists seem to have won many converts, perhaps not permanently, from among the followers of the qualitative school. In any event, I would agree with Professor Dunkman that there is no a priori reason for believing that the loans of commercial banks are any better or worse in terms of their quality than those made by other lending agencies. And I would agree that if we ever do get to the point of wishing to control loan quality we shall have to broaden our control framework very considerably.

The second type of control measure against which Professor Dunkman protests is that aimed at specific markets, by which he means, I assume, Regulations W, T, and U. Actually, these are

the only control measures of the type that we have; the species is altogether absent from the field of business credit, and in the fields of agricultural and urban mortgage credit our policy has been generally unco-ordinated with policy in other areas, and generally on the inflationary side. My objection to Regulation W would be somewhat different, I believe, than Professor Dunkman's. In my view it was an unnecessary measure and harmful to the extent that it served to divert attention from the real credit problem, which was the exercise of general credit control and the necessity of a contractive fiscal policy. Regulation W was imposed on a market already showing signs of surplus; it continues to be imposed on a market that is the outstanding example of consumer price contraction. I am not unaware of the fact that the amount of consumer credit in use has increased by several billions of dollars, and that a good part of this has come from the commercial banking system. What I am saying is that this has not caused an inflation in the specific market in which this type of credit is used, that it has been a threat to economic stability only in the sense that it was part of a general credit expansion which led to an increased money supply, and that, like all other kinds of credit, it might better have been checked through the exercise of traditional central banking controls.

Having established that bank debt is no different from any other kind of debt, as far as the quality of the corpus of debt is concerned, and that efforts to control specific types of price increases will fail because loan expansion has an indeterminant effect on prices, Professor Dunkman turns to what most economists will, I am sure, regard as the crux of the monetary issue: the effect of bank lending policy on the expansion of the money supply. He correctly asserts that Federal Reserve authorities are powerless to prevent an increase in the money supply, unless they have recourse to unusual and unconventional methods, without allowing the interest rate to rise. As I understand Professor Dunkman's position it is that the unusual methods open to the authorities—variations of the now numerous plans for freezing bonds into the commercial banking system—will not work and that, therefore, the only way to handle the problem is for the Treasury to follow a deflationary fiscal policy. But why not allow the interest rate to rise?

I return now to Professor Graham's position and ask: where is the advocate for a free interest rate? Where is Professor Graham's opposite number? If time permitted I should like to make the case

myself. But it may be that economic conditions will take care of the problem for us. A deflation of income at this time would solve a lot of problems, including the question of what to do next in the government bond market. But other inflations are coming, I expect, and their pressure on our economy will probably become increasingly serious. We must find some means of protecting ourselves from them. Otherwise, we may indeed perform the "amicide" which Professor Graham foresees. One thing is certain: the solution will be found either in a system of flexible interest rates or in a far more extensive system of direct controls than those with which we are now attempting to do the job.

DISCUSSION

JOHN H. WILLS*: Professor Graham's masterly exposition of the virtues of free exchange rates in a world of independent national monetary policies and of a consequent maze of controls in order to balance international payments with fixed exchange rates is like a breath of fresh air in a room blue with tobacco smoke. Unfortunately for this troubled world, market after market is losing the kind of freedom that Professor Graham advocates in the foreign exchange market, so that the same need for ventilation is apparent everywhere.

This introduces the first point I would like to raise with regard to his paper. Whether we like it or not, the present tendency in domestic as well as international trade in many countries is toward a larger degree of government intervention, forced in part by developments in international politics. Within this general setting, encroachment of government in the supervision and control of exports and imports proceeds faster, and may recede more slowly, than controls over domestic trade. This raises the basic question whether the forces that work toward equilibrium in a free exchange market when trade is conducted privately are operative to a degree sufficient to bring about balance when trade is conducted or strongly guided by governments. In this situation is the exchange market the initial objective in the campaign to restore freedom and abolish controls, or must freedom there await a change in the direction of world and national politics?

Closely related to this question is the efficacy of free exchange markets as over against fixed rates and controls in correcting lack of balance in international payments caused by the disruption of

* The Northern Trust Company, Chicago, Illinois.

prewar trade channels and the loss of invisible items, temporary or permanent. The more favorable terms of trade provided by a controlled rate in the sellers' markets existing after the war have been a potent influence in the policy of some countries, for example. Professor Graham's paper would be more helpful if it dealt more completely with these sudden and drastic war-caused changes in the conditions of trade.

Finally, in the future of exchange rates, is it a foregone conclusion that national monetary policies will be completely independent? Is it too much to expect, for the western world, an approach to common economic policies and a common currency? Which is more likely to work in the direction of international harmony and an integration of the economic systems of the western world—fixed rates subject to adjustment, however imperfectly, in an international organization, or freely fluctuating rates, The pressure for monetary rectitude provided by postwar monetary organizations, however ineffectual at the start, is a force in the right direction and should not be discarded lightly.

Turning to Professor Dunkman's paper, it seems to me that he has succeeded well in pointing up bank loans as a part of the totality of all loans. The separate treatment of the lending function apart from the deposit-creating function gives a perspective to bank lending activities in relation to that of other institutions that is lost when one thinks of a bank loan first as adding to the money supply and only secondarily as meeting a small part of the total demand for funds by borrowers.

It is helpful also to see the question of multiple deposit expansion dealt with so clearly. The five-to-one expansibility of bank credit for any given increase in bank reserves has been taken too much for granted in some quarters. It is closer to the truth to say that reserves go up by one-fifth of the rise in deposits (assuming a 20 per cent reserve requirement). A rise in deposits may be the result of many factors, including, as Professor Dunkman puts it, a loan demand that exceeds current savings.

There is one point in his exposition of the working of the fractional reserve system under present conditions of Federal Reserve support of the government bond market that needs clarification. Professor Dunkman says, and rightly, that when the Federal Reserve buys $100 of government securities and the proceeds from sale are deposited in the banks, the banks are likely immediately to invest the $80 of excess reserves created thereby in short-term

government securities purchased from the Federal Reserve Banks. The question is whether the possession of these additional short-term holdings by the banks is likely to lead them to make loans or purchase securities that would not be made if the short-government position of the banks had not been increased.

Perhaps I misunderstand Professor Dunkman, but he seems to have a concept of total loan demand that is independent of the position of the banks or other lenders. In reality, under present conditions and in fact under any conditions, there is an array of loan demands, a part of which is met by the lenders and a part of which is not. That part which is not may include loans that are credit-worthy, but that are turned down for other reasons. Some of these demands are more likely to be filled if the short-term government security holdings of the banks rise as a result of an expansion of deposits and reserves caused by support purchases or other factors.

In further comment on this point, the non-regulatory limits on bank lending are too often overlooked. Bankers look at the total of their commitments in particular industries and decide not to take on any more loans in this or that category. They look at loan totals and decide that the risk funds are large enough in relation to capital funds. When business is booming and prices are high, they attempt to measure the increased risks in their loan arising out of vulnerability to declines in volume and prices, and they raise credit standards. Contrary to the implications of Professor Dunkman's statement with regard to stricter lending policies, it seems to me that this is a desirable development in an inflationary environment to the extent that it restrains other causes of inflation. The same sort of consideration of sound finance are in the minds of businessmen in their decisions of whether to borrow or not to borrow. Indeed the five-to-one expansion ratio does take too much for granted.

The foregoing is another way of saying that it is very difficult to bring about any "desired" change in the money supply through manipulation of bank reserves, at least in the upward direction. The direction of changes may, however, still be powerfully influenced. This raises the fundamental question of monetary as over against non-monetary causes of inflation and deflation. Certainly in the inflation we have been experiencing in recent years, non-monetary causes provide the origin of inflationary forces even though we may see their effects in monetary measures. To my mind the expansion of bank credit during and since the war has

been largely the result, and other factors have been the primary cause, of this inflation. The expansion of the money supply has simply permitted the continuation of these other causes of inflation. It should be emphasized also that increased velocity rather than deposit expansion has been a more important factor in the past year.

Professor Dunkman leaves the impression that bank lending has no more potent effect on the general level of prices than lending by non-bankers. He also leaves the impression that all demands for loans should be met if the borrower is credit-worthy; otherwise an injustice as between the firm with funds and the firm without funds may be involved. I shall not challenge him on these points, but simply raise the question as to his intended meaning.

Professor Abbott's brief comments as to the place and function of a central bank in the new postwar setting seem to me to be particularly well put. I should like to make two comments on his later remarks.

Professor Abbott speaks of the small changes in the total of Federal Reserve credit outstanding. Similar references have been made in other quarters to the fact that despite the purchase of almost $10 billions of Treasury bonds in the past year, the total amount of Reserve credit in use has increased by only about $1 billions and that this latter figure is more than accounted for by the rise in reserves caused by the increases in percentage reserve requirements. The comments of this nature make no reference to other factors that have affected member bank reserves, including chiefly the gold inflow and changes in money in circulation. In the past twelve months these two latter factors have added $2 billions to member bank reserves. A policy of monetary restraint would have endeavored to counteract the expansionary effect of these changes by open market sales, but that was precluded by considerations stemming from public debt policy.

Another important result of the support policy that is overlooked when the total of reserve bank credit is referred to is the increase in the liquidity position of the banks that has resulted from the purchase of Treasury bonds and sale of short securities by the Federal Reserve Banks. The increase in short-term government security holdings of the banks tends to encourage bank lending or longer- term investment. It is fortunate that the above-mentioned factors relating to non-monetary restraints on bank lending policies

have been effective in curtailing loan expansion in the face of this increased ability to do so.

A third and final remark in regard to Professor Abbott's paper has to do with the peculiar circumstances surrounding the recent very moderate increases in short-term interest rates. In the past an increase in short-term interest rates has been symptomatic of a declining supply of lendable funds. It is questionable whether, from the standpoint of central banking policy and influence, the rise can be so interpreted now. It appears that, so far as the central bank is concerned, the increase in the short rate has been an arbitrary marking up of the buying and selling rates on short-term government securities, without any significance as to the supply of banking funds available at these rates. Here again commercial banking considerations that are independent of central bank policy have played the important role.

CURRENT INVESTMENT TENDENCIES—THEIR DIRECTION AND SIGNIFICANCE*

CURRENT TRENDS IN INSTITUTIONAL INVESTMENTS

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In handling this subject, I would like to center attention chiefly on the investments of the legal reserve life insurance companies for two reasons. First, it is the field in which my own knowledge is largely concentrated, and it seems wise to write and talk about matters on which one is reasonably informed. To cover the entire field of institutional investment would have required an amount of time and resources such as were not available to me. In the second place, life insurance investments form by far the largest and most rapidly growing section of institutional long-term investments, and therefore provide the most useful available sample of the sum total thereof.

United States life insurance companies have at the present time assets totaling over $55 billions. This is equivalent to over 2½ times the assets of the mutual savings banks, and 4¼ times the assets of savings and loan associations which are members of the Federal Home Loan Bank System. Life insurance assets are, in general, not comparable to those of the commercial banks, since the former represent entirely the savings of individuals while those of the commercial banks arose mainly from credit creation. Moreover, while life insurance assets are largely available for long-term investment, those of the commercial banks must be kept largely in short-term paper or cash.

The life insurance companies have become the most important single channel through which the savings of individuals are marshalled to meet the long-term capital requirements of the country. The relative importance of such savings is indicated in Table 1.

From the available data it appears that the current rate of life insurance asset increase, amounting to about $3.5 billions annually, is equivalent to about one-third of the total current savings of individuals.

*The following four papers and one discussion paper were presented at the meetings of the American Finance Association in Cleveland, December 29, 1948.

TABLE 1
(billions of dollars)

	Total Personal Savings*	Net Savings through Life Insurance†		Total Personal Savings*	Net Savings through Life Insurance†
1929	3.7	1.1	1939	2.7	1.6
1930	2.9	1.0	1940	3.7	1.7
1931	1.8	.7	1941	9.8	2.1
1932	−1.4	.2	1942	25.4	2.4
1934	−1.2	.2	1943	30.0	3.1
1935	− .2	1.1	1944	34.2	3.5
1936	1.8	1.5	1945	26.6	3.9
1937	3.6	1.8	1946	11.8	3.5
1938	3.9	1.4	1947	8.8	3.5

	Total Personal Savings	Net Savings through Life Insurance	Percentage of Total Personal Savings
1929	3.7	1.1	31
1930-41	28.3	14.7	52
1942-45	116.1	13.0	11
1946-47	20.6	7.0	34

*Estimates of Department of Commerce, published in *Survey of Current Business* for July, 1948.
†From aggregates of all life insurance companies, published by *Spectator Year Book*. Net savings shown were obtained by deducting from the increase in total admitted assets the net increase in policy loans and premium notes.

The figures also indicate that in periods of low business activity, which are also periods of low savings, life insurance savings tend to constitute a larger relative part of the total than in times of prosperity, such as the present or the year 1929. This is understandable as individuals tend to hold on to their life insurance until they have been forced to abandon other types of savings. Also, there is a powerful automatic feature in life insurance savings because of the periodic nature of premium payments necessary to keep a policy in force.

Certain factors in the American economy tend to increase the relative importance of savings made through life insurance. It has become an increasingly urbanized economy and one of increasing specialization. To a larger extent than formerly the major tools of production are financed and owned on a collective basis rather than directly by individuals. An expanding proportion of savings now takes place through monetary channels rather than through the direct acquisition of property.

Even more important, progressive income tax schedules have very greatly reduced the ability to save of people in the higher income brackets, while the middle income group has been enlarged from below by an increase in real wage levels. In other words, we have during the last two decades witnessed a very great leveling in real income. As a result a larger proportion of total ability to save now rests with people who traditionally save through life insurance and other institutional channels rather than through the direct purchase of securities and other investment media.

Recent Investment Trends

In Table 2 there is presented in summarized form the investment trends over the eighteen years ending with 1947 of forty-nine large legal reserve life insurance companies, which hold between them about 90 per cent of the assets of the entire industry. These trends have been presented over three periods—a twelve-year prewar period ending in 1941, the four war years from 1942 to 1945, inclusive, and the postwar years 1946, 1947, and 1948.

TABLE 2

Investment Trends of 49 Life Insurance Companies
(amounts in billions of dollars)

	End of Calendar Years				Increase by Intervals		
	1929	1941	1945	1948	1930-41 (incl.)	1942-45 (incl.)	1946-48 (incl.)
Mortgage loans	6.7	5.7	5.7	8.8	– 1.3	—	3.2
Real estate	.3	1.7	.7	.9	1.4	– 1.0	.2
Bonds:							
U. S. government	.3	6.4	19.0	15.2	6.1	12.6	–3.8
Municipal	.6	1.7	.6	.6	1.1	– 1.1	–
Canadian govt.	.4	.6	1.1	1.6	.2	.5	.3
Railroad	2.8	2.9	2.7	2.7	.1	– .2	–
Public Utlity	1.4	4.6	4.7	7.9	3.2	.1	3.2
Industrial and Misc.	.2	1.8	1.8	7.1	1.6	– .	2.5
Total bonds	5.7	18.0	29.9	34.9	12.3	11.9	5.0
Preferred stocks	.2	.4	.6	1.0	.2	.2	.4
Common stocks	.1	.1	.2	.2	–	.1	–
Cash	.1	.8	.6	.6	.7	– .2	–
Total investments and cash	13.1	26.7	37.7	46.4	13.3	11.0	8.7

These three periods reveal markedly different trends. The first one was characterized by a considerable shrinkage in the long-term private debt of the country. However, in this period the life insurance companies did increase their holdings of securities, representing the long-term debt of public utilities and industry, by taking over, mainly through the refunding process, large segments of this debt formerly held by others. This was accompanied by a sharp decline in the rate of interest paid on this debt.

A large part of the increase in life insurance assets during these prewar years was invested in U. S. government bonds, mainly for lack of other suitable investment media, although in 1941 the advent of defense financing did provide some stimulation for such investment.

During these twelve years, investment in mortgage loans declined, both absolutely and to an even greater extent on a relative basis, from 42 per cent of the assets of forty-nine companies at the end of 1929 to 19 per cent at the end of 1941. The absolute amount of

this decline was offset by an increase in real estate holdings, resulting mainly from mortgage foreclosures. Real estate holdings reached a peak at the end of 1937 of 8 per cent of the total assets of the companies, and then amounted to over 40 per cent of their outstanding mortgage loan accounts.

The four war years were characterized by a very sharp increase in holdings of U. S. government bonds, which was equivalent to somewhat more than the total increase in assets of the companies in this period. While such holdings did not reach an absolute peak of over $19.5 billions until 1946, they reached the relatively high proportion of over half the total investments and cash of the companies at the end of 1945.

Also, in these years foreclosed real estate was largely liquidated, and advantage was taken of very high municipal bond prices to liquidate most of the holdings of such tax-exempt securities. Because of the formula by which life insurance companies are taxed, the feature of tax exemption is of comparatively little value to them.

The postwar period has witnessed the development of some new trends. Important among these has been a great growth in the demand for capital on the part of business and industry and for housing. To help meet this demand life insurance investments in mortgage loans, public utility bonds and, most strikingly, in industrial bonds, have shown a rapid increase. In the years 1946-47 this increase was largely handled through investment of the net increase in life company assets and only to a minor extent by the sale of U. S. government bonds.

Turning back briefly to Table 2, it should be realized that the dollars referred to in the years 1946-47 possessed a much smaller purchasing power than those of 1930-41, and the dollars available for investment in 1948 were of lesser purchasing power still. This is an important factor in interpreting capital demand as expressed in dollars.

In the year 1948 the life insurance companies rather heavily augmented the funds made available by their increase in assets by the sale of a substantial amount of government bonds. In the year 1948 the forty-nine companies referred to in Table 2 increased their holdings of mortgage loans and real estate by over $1.8 billions, those of public utility bonds by over $1.5 billions, and those of industrial and miscellaneous bonds by over $2.5 billions. Municipal, Canadian government, and railroad bonds and stocks,

went up by $384 millions in the same period. The sum total of these increases, amounting to over $6.2 billions, was just twice as great as the $3.1 billions increase in admitted assets which the companies experienced during this twelve month period. The difference was made up by net sales of government bonds, mostly of the long term variety, totaling over $3.3 billions; and this represented a decline of 18 per cent in the government bondholdings of these companies in the single year 1948.

It has been stated that such sale of government bonds on the part of the life insurance companies and the reinvestment in other types of securities has been inflationary. This is no doubt true. It is also true that if this investment substitution had not taken place, marked credit stringency would have been felt by large sections of industry which normally look to the life insurance companies for a major part of their capital—the utility industry, whose capital requirements come close to being an economic must, being a notable example. For during this period, in spite of this action on the part of the life companies, money rates on investments other than on government bonds rose sharply. The underlying fact seems to be that at this time our economy is trying to invest more funds than our people are choosing to save. What the correct remedy for this should be hardly lies within the scope of this paper.

Restrictions on Life Insurance Investment Media

By law and tradition the investments of life insurance companies have in the past been limited almost entirely to senior securities, which are very largely evidences of debt. In other words, their investment has been pretty well restricted to bonds and real estate mortgages.

There have been a number of reasons for this. Probably the most fundamental one is the fact that life insurance assets have traditionally been regarded as trust funds, and their investment in the most senior and secure investment media has, therefore, seemed proper.

On the more technical side, the mathematical calculation of life insurance reserves assumes a fixed but certain rate of return; and it has seemed proper that these reserves should be backed by assets which appear best able to assure this type of return. The other side of the coin is that since life insurance contracts are payable strictly in dollars there has been no direct and tangible pressure on the companies to attempt to maintain the purchasing power of life insurance proceeds against a shrinkage in the value of the dollar.

The foregoing considerations have resulted in laws which in most important states specify that life insurance funds, aside from a certain limited proportion thereof, should be invested only in evidences of debt. For example, companies domiciled in New York State, which hold about 60 per cent of the total assets of the industry, are permitted no investment in common stocks.

A powerful factor which has colored the thinking of both lawmakers and life insurance managers, especially those of the largest companies, is the fear that the life companies, if they were permitted to invest in common stocks, might find themselves in control of other corporations. The management problems and political repercussions which might result from such an eventuality have proved strong deterrents to any desire to press for permission to invest in common stocks. Such fears have probably been intensified by insinuations that certain features of privately negotiated loans tend to inject life insurance lenders too far into the management of borrowing companies.

It may be stated in general that the standard accounting practices of life insurance companies, which have become largely frozen into law, favor investment in bonds and mortgages and discourage investment in equities. While satisfactorily secured bonds and mortgages may be carried at cost or amortized values, stocks, both preferred and common, must be carried at current market value. This tends to limit equity investments to a low percentage of assets, because of the possible effect on a company's surplus of a serious decline in stock market prices. This, in turn, would tend to produce wide fluctuations in the regularity of dividend payments. In the case of few life companies does free surplus exceed 10 per cent of total assets; and if any large proportion of those assets were stocks, the effect on that surplus of a serious decline in stock prices is obvious. As a practical matter, therefore, life company investment in stocks seldom exceeds about 5 per cent of the assets of an individual company even when the law permits a higher proportion.

Because of the quite rigid manner in which the liabilities of a life insurance company are calculated in this country, and also because these liabilities are strictly dollar liabilities, security of principal, expressed in dollars, and reliability of dollar rate of return are more important considerations than the chance for capital appreciation. Also, because of the manner in which life insurance companies are taxed, tax exemption of income is of very little value to them, except in so far as it may enable them to sell out

later on advantageous terms to those to whom such exemption has real value. In this respect their position has come to differ radically from that of individuals in high-income tax brackets, to whom tax exemption, or the chance to substitute a capital gains tax for the regular income tax, are prime considerations.

The position of life companies with respect to tax exemption of securities is considerably different from that of the commercial banks, whose earnings are taxed on the same basis as those of corporations in general.

Because of these factors, life companies are mainly buyers of types of securities which have largely lost their appeal to individuals, namely, corporate bonds and mortgages. While there is some overlapping of interest between life companies and the commercial banks, in general their requirements are different. Banks, to provide backing for their demand liabilities, invest largely in short-term securities; while life companies, because of the continuous growth of their assets, which was unbroken even in the worst depression years, and their large and comparatively reliable cash inflow, do not, in general, feel a pressing need to sacrifice rate of return for liquidity.

As a result of these considerations, and also because of the large proportion of total individual savings which accrue to them, the life insurance companies have become the most important source of long-term capital, in this country, of the type which is interested primarily in security of principal and sureness of rate of return.

The Problem of Equity Financing

To what extent are life insurance investment practices and those of other financial institutions responsible for the current difficulty on the part of business and industry in raising equity as compared with debt capital? No exact answer to this question is possible here although circumstantial evidence points to some connection between the two. When a life insurance company buys the thirty-year bonds of a utility, which contain little provision for amortization, to yield it 3¼ per cent, while the common stock of that utility sells on an apparently well-protected yield basis of 6½ per cent, or even considerably more, it seems safe to assume that if the life insurance company felt as free to buy the stock as the bonds, the two yields would be equalized, to some extent at least, and the utility would find it possible to raise equity capital on a relatively more advantageous basis.

A striking example of the influence of the life companies on capital-raising practices is provided by the experience of the natural gas pipe-line companies. These are large enterprises, sometimes starting from scratch and having to raise a very large amount of capital in a short time. However, they have the advantage of being able to calculate their future earning power with considerable accuracy, and so are able to sell bonds readily to institutional investors. They have been taking advantage of this fact to raise as much as three-fourths, or even more, of their total capital requirements by the sale of bonds almost entirely to life insurance companies. The sale of the relatively small amount of equity capital necessary to cushion the bonds has frequently proved much more of a problem than the sale of the bonds.

The electric and telephone industries also have, in general, had no great difficulty in raising that part of their capital requirements which can be done through the sale of mortgage bonds and debentures, although even the cost of this type of money is going up. Their real problem, and it is a tough one, is in selling enough equity securities to keep their capital structure in balance in a period when their new capital requirements are very great.

The very large volume of industrial bond financing, which in the last three years has gone very largely to life insurance companies by the private route, again attests the relative ease and cheapness of raising money by sale of bonds to life insurance companies as compared with other possible types of financing.

All this of course is just one side of the picture—that which comes to light during a period of heavy capital demand. The other side, which is also familiar to the life insurance companies, was the difficulty experienced during former years of low capital demand of finding sufficient suitable debt media in which to invest. However, the effect on a private enterprise system, to which equity capital is the life blood, of a situation wherein too large a proportion of the nation's savings is forced to seek investment in debt media cannot in the long run be a healthy one.

That it is possible for experienced institutional investors to put a substantial proportion of their funds into equity types of securities is indicated by the success of the British life insurance companies in doing so over a long period of time.

Requirements for Equity Investment

The question is posed, "What steps are necessary to permit a larger proportion of life insurance and other institutional funds to seek investment in equities?" From the foregoing the following seem to be among the more obvious of such steps.

In the first place, it would be necessary to amend certain state laws, particularly those of the state of New York, to permit a moderate investment by life insurance companies in common stocks. This could be accomplished in New York by permitting investment in common stocks within the 10 per cent of assets limit now reserved exclusively for preferred and guarantied stocks, or this limit might even be increased to 15 per cent. To prevent a life insurance company exercising control of management, it might be provided that no life insurance company could own over 10 per cent of the voting stock of another corporation held as an investment.

However, such legal permission alone would not open the way if some formula of valuation is not devised to remove the threat of sudden large fluctuations in surplus. One such formula, advanced two or three years ago by representatives of the life insurance industry, involved limiting the write-down of stocks in any one year to one-fifth the difference between their book value at the end of the preceding year and their current market value. This shock-absorbing device was suggested only for preferred stocks meeting certain quality standards. However, there seems no good reason why it should not be applied more broadly. Unfortunately this, or any other such formula, has not made notable progress in receiving acceptance by the regulatory authorities.

Also, if stocks, particularly common stocks, are to constitute any considerable proportion of life company portfolios, it would probably be desirable for such companies to carry more free surplus in relation to assets than has been customary for some of them to carry in recent years. This also might involve changes in the present New York law.

At the present time, with rising interest rates on bonds and mortgages and a seeming plenitude of investment outlets in these traditional fields, it is not primarily the investment requirements of the institutional investors which call for an exploration of this matter of equity investment. On the other hand, after experiencing years of declining interest rates and shrinking investment outlets, these investors are moderately well satisfied with the current

investment picture. However, one must still give consideration to the broader capital requirements of the economy as a whole and the desirability of achieving a proper balance between debt and equity financing.

In conclusion, it may be stated that a few life insurance companies have, where state laws permitted, modestly increased their common stockholdings in recent years. Others, including the largest ones, have made investments in commercial and residential real estate which, since they own the properties outright, constitute equity investments, there being no junior investment capital in the picture to cushion their holdings.

CURRENT TENDENCIES IN COLLEGE INVESTMENTS

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In addressing ourselves to the topic "Current Tendencies in College Investments" it might be desirable to take a quick look at the size and rate of growth of college endowment funds and at their investment objectives and limitations. (The terms endowment funds and investments are loosely used interchangeably, as endowment funds constitute the great bulk of college investments.)

SIZE AND RATE OF GROWTH OF COLLEGE FUNDS

The total book value of all college endowment funds is about $1.8 billion. By way of contrast, commercial banks have $150 billion of assets, life insurance companies $55 billion, mutual savings banks $20 billion, and fire and casualty companies about $10 billion. Thus the commercial banks have over 80 times as much money to handle as colleges, life companies 30 times as much, mutual savings banks 11 times, and fire and casualty companies 5½ times as much. Moreover, there are twelve life companies, each of whose assets exceed $1 billion, and there are some sixteen commercial banks of this size. The largest college endowment is only about $200 million, and there are only three others whose funds exceed $100 million. Thus the college investment problem is minute compared with that of our giant neighboring institutions.

The rate of growth of college endowments is much less rapid than the growth of banks and insurance companies. In the ten years ended in 1946 college endowments rose about one-third in amount, whereas commercial bank assets nearly tripled, life company assets doubled, mutual savings bank assets rose 60 per cent, and fire and casualty insurance company assets gained nearly 80 per cent. The $3.5 billion *annual increase* in assets of the life companies is twice as great in dollars as the aggregate of all investments now held by colleges. Therefore, there is not as much heat on the managers of college funds to find an outlet for new money as there is for insurance companies and banks, and, not having to rely on the supply of new investment media, colleges have been more free in policy decisions. The college problem is rather one on how best to invest existing funds; the relatively small accretions from year to year are not much cause for concern.

INVESTMENT OBJECTIVES AND LIMITATIONS

The investments of colleges are not regulated by state and federal authorities, as are those of insurance companies and banks.

For the most part colleges operate under the prudent man rule, with income the important consideration. Our funds are held in perpetuity and are usually free of donor restrictions as to investment. We do not have to pay deposits on demand, nor do we have contractual obligations to make specified dollar payments in the future. Colleges are true long-term investors unworried by the necessity of convertibility. Unlike banks and insurance companies, colleges are vitally interested in purchasing power. We cannot limit our professors to the same number of dollars they received in 1929 or even 1939. These differences in investment objectives and limitations have, I think, had a marked influence on the policies adopted by college investment officers.

Comparison of Portfolios in 1946 and 1931

In order to get a perspective of what has been happening to college portfolios, let us compare the diversification of 1931 holdings with those of 1946. Comprehensive later data is not available. The figures below have been taken in large measure from an excellent study by Scudder, Stevens, and Clark entitled *Survey of University and College Endowment Funds* which, in turn, is based in part on data prepared by Wood Struthers & Co. The percentages are at book values.

In 1931 government bonds and cash constituted 5 per cent of total college investments, while fifteen years later they were 29 per cent. This change is typical of insurance companies and banks and is what one would expect to see. However, college commitments in non-government bonds declined from 48 per cent of the total in 1931 to 15 per cent in 1946. Thus holdings of all bonds, government and non-government, declined from 53 per cent in 1931 to 44 per cent two years ago. This is an extraordinary showing when compared to life companies and banks, each of which more than doubled the percentage of their holdings in bonds in the same interval.

During the fifteen-year period colleges reduced their real estate mortgages from 17 per cent to 6 per cent, but clung more tenaciously to real estate owned, which declined only from 10 per cent to 8 per cent of the total. Preferred stocks, which were 9 per cent of investments in 1931, were increased to 12 per cent by 1946.

The most significant change during this fifteen-year interval took place in common stocks where colleges increased their holdings from 11 per cent to 30 per cent. If market values are used, com-

mon stocks aggregated 35 per cent of total investments in 1946, or about 3½ times as great a percentage as fifteen years earlier.

While, as I have indicated, no representative figures since 1946 are extant, a sufficient cross-section of college reports for the 1947-48 fiscal year which usually ends June 30 are available and I have spoken to a sufficiently large number of treasurers at a convention held in December, 1948, in Washington to be able to say that there is no evidence of a trend away from investing in equities. On the contrary, there appears to be more determination than ever to increase the ownership of equities on the part of many colleges by, say, an average of 5 per cent. Thus, many schools which presently have 35 per cent of their endowment funds at market values in common stocks are preparing to increase that percentage to 40 per cent, while many that are 40 per cent are going up to 45 per cent.

Significance of Large Increase in Equity

1). *Rate of return, past and future*—What is the significance of this vast increase in equity position? Most important from the point of view of the colleges has been the stellar performance income-wise. Colleges earned 5¼ per cent on the book value of their investments in 1931 and are today probably earning around 4½ per cent. This is in the face of a decline in high-grade bond yields of nearly 2 per cent. Income has thus been cut only three-quarters of 1 per cent as against more than a 2 per cent decline for life companies in the fifteen years. I am only too well aware that the present showing of colleges may be abnormally favorable, that dividends may decline and interest rates rise, thus restoring a more normal balance. Nevertheless, the maintenance of the rate of return by colleges has been extraordinary.

By the same token, the total amount of income over an extended future period, say a decade, should average considerably higher than if the funds were more largely invested in fixed income securities. This seems a reasonable expectation even though taxes are higher, labor costs more inflexible, profit margins lower, and other difficulties of the free enterprise system appear more acute.

2). *Instability of income and income reserve plans.*—Again, the large holdings of common stocks by colleges mean that endowment income in the future will not be as stable as it was in the past. Income will fluctuate more with the vicissitudes of American business. This will place a greater strain on college administrative officers, who are less able to trim their sails quickly than business

men. In this connection we may note that endowment income today accounts for a smaller proportion of the college budget than twenty years ago, possibly one-quarter as against one-third. This of course is not due to a decline in investment income but to a more rapid rise in expenses financed from other sources such as gifts, government grants, and increased tuition. But please do not infer that investment income is no longer important; to judge from the howls of hard-pressed administrative officers, it is more essential than ever.

The lack of continuity in investment income has given rise to the adoption by a number of colleges of an income reserve plan under which a portion of the income received in abnormally good years is set aside for use in lean years. This is a thoroughly logical and sound development and should enable an institution not only to hold a greater proportion of funds in equities than might otherwise be prudent, but also enhances the willingness to lighten common stock commitments during boom conditions when prices are high but when, concurrently, dividends are temporarily so great as to forestall sales which might otherwise be made.

3). *Fluctuations in market value and formula investing.*—A further point for consideration is the probability that the market value of portfolios will vary more widely from year to year as greater amounts of equity are owned. Not possessing a liquidity problem, however, and investing for income rather than capital enhancement, colleges are peculiarly well equipped to disregard the fluctuations in security prices.

Still another development flowing from the enlarged common stock position is the growing attention being given to formula plans. Many are the temptations and pitfalls of investing in a type of security whose price fluctuates violently. Bull and bear markets generate optimism and pessimism at precisely the wrong moments and dispassionate judgment is especially difficult when decisions lie in the hands of a committee. In order to take some advantage of wide movements in stock prices and, more important, to avoid costly mistakes, a number of colleges have adopted a preconceived schedule for the purchase and sale of equities. These take a variety of forms, the two most common being a constant ratio plan and a variable ratio plan. Under a constant ratio idea, a normal relationship of fixed income securities (bonds and preferred stocks) to variable income securities (common stocks) is set, such as 60 per cent fixed, 40 per cent variable. When rise in

the stock market brings the variable income securities to, say, 45 per cent, stocks are sold and bonds bought to restore the normal ratio and this process is repeated as often as necessary. Conversely, each time a decline in the stock market results in the equity holding dropping to 35 per cent, stocks are built up to 40 per cent. Under a variable ratio plan, as the market rises the percentage in equities is progressively reduced from 40 per cent to some minimum, such as 20 per cent, while in a falling market stocks are progressively increased to a maximum of, say, 55 per cent or 60 per cent of the total fund.

Colleges employing formula plans include Yale, Vassar, Oberlin, Northwestern; to some extent, Kenyon, and Mt. Holyoke but there are undoubtedly many others which operate under a general scheme which has not been formally adopted with attendant publicity. The experience of colleges with formula plans has on the whole been considerably better than those without, from an income as well as a capital point of view. I have little hesitation in predicting greater use of this type of yardstick.

4). *Contribution of venture capital.*—I cannot resist calling attention to the fact that colleges have done their part in contributing venture capital to the American system. They have done this for selfish reasons, of course. But they have helped the equity market by supplying some hundreds of millions of dollars of risk capital in recent years, a step, I suspect, the life companies may also be forced to take in due course for their own protection and for the good of American enterprise with which they are so closely tied up.

5). *Protection of purchasing power.*—Finally, if the long-term price level should continue up—and I refer here not to a violent movement of two or three years' duration, but to a rise which might take place over a generation—colleges will probably have retained a greater proportion of their purchasing power because of their large investment in common stocks than they would otherwise have done, and this retention will enable them to obtain a bigger real income in the future.

Those who fear the effects of the trend toward socialism might well reflect that, according to some indices, the British stock market reached its highest point in history as late as 1947, long after the Labor Government had taken office, after nationalization of industry was under way and after the postwar weakness of Britain's international position was known. Even today (Decem-

ber 29, 1948) the British market is down only 14 per cent from the peak, while ours is off 17 per cent from the 1946 high.

Purchase and Lease-Back of Real Estate

Turning now to current tendencies in college investments other than the substantial equity position, it is interesting that colleges pioneered in the purchase of real estate and its lease-back, over a long term of years, to the seller. The earlier deals involved rentals which amortized both land and buildings in full over twenty years and gave a 5 per cent to 5½ per cent yield which, when the insurance companies entered the field, was subsequently cut to as little as 3½ per cent for terms that ran as long as forty years. Generally speaking, smaller colleges are not equipped to handle this kind of non-marketable investment and I doubt that its use will become outstandingly important even to larger institutions unless the rate of return should go back to a much higher figure.

One should watch for a possible tax abuse as, for example, where the company sells the property at a loss, takes the tax loss against other income, and then has a low rental for the period of lease-back. If the pay-out period is too rapid, say ten or fifteen years, it is quite possible the Internal Revenue Department may rule that the entire rental is not deductible for tax purposes, especially if there should be an option to repurchase the property at the end of the initial rental period. A number of these deals have, I think, been made without the purchaser giving sufficient attention to whether he is relying for his security on the credit of the leasing company or on the value of the real estate. Moreover, while the sale of property and its lease-back may enable a concern to obtain capital it would otherwise have had to seek through the issuance of bonds, still, from the viewpoint of the lessor, it should be recognized that the rental is an operating charge, ranking prior to fixed charges during solvency, but having a limited claim in the event of bankruptcy. Thus, while the balance sheet looks cleaner, the company may not be any stronger than if it owned property and had funded debt.

Shortening of Bond Maturities

Another readily discernible tendency in college investments has been the shortening of bond maturities. This phenomenon, under way for a number of years as high coupon bonds were replaced with lower interest obligations many of which were not bought by colleges, has been accelerated in the past twelve months. Part of

this trend is due to concern lest the Federal Reserve reduce the buying price on long-term governments in the intermediate future, but over and above this fear has been a conviction that interest rates are artificially low and that, if not this year or next, at least in the ensuing five to ten years interest rates will be appreciably higher. This is a highly debatable subject, I know, and I simply record how college treasurers have reacted toward it, particularly when other attractive outlets for investment are available to them. Proceeds from the sale of long bonds have gone, in general without loss of income, into various combinations of equipment trust certificates, commercial paper, some second-grade municipals, five- to fifteen-year convertible bonds, real estate mortgages which are again beginning to bear a fair rate, and to a lesser extent into preferred and even common stocks.

Preferred Stocks

As regards preferred stocks, colleges are now generally insisting not only on fairly good quality, but are following the lead of life insurance companies in demanding sinking funds. This means that corporation executives may have to become more liberal in their ideas of sinking funds and that 1 per cent and 2 per cent annual funds will give way to 3 per cent or 4 per cent sinking funds. Convertible preferred issues have also proved of considerable interest.

Portfolio Management

The problem of management of the college portfolio is one constantly before the trustees of these institutions. In very small endowment funds, the matter is frequently handled by the purchase of investment trust shares. In funds running from, say, $3 millions to $10 millions, where one college trustee has not been readily available to take on the job and where the fund is too small to employ the full-time services of a competent investment man, it has not been unusual to employ an investment counsel firm or bank. Recently Harvard College, whose endowment fund of $200 millions is the largest in the country by a considerable margin, elected as treasurer Paul C. Cabot, president of State Street Investment Corporation, and entered into a contract to obtain the advice of State Street Research and Management Company in the handling of its investments. This is a sufficient departure from tradition to merit attention and, in my opinion, may well be followed by similar arrangements involving other sizable college funds. It is recognition of the need for competent and continuing, unbiased, investment advice in the management of college portfolios.

Investments in Housing

Most colleges are underbuilt. Relatively little construction has taken place for many years and enrolments stand today at some 2,250,000 against 1,500,000 prewar. Despite the large number of G.I.'s who will, in due time, complete their studies at institutions of higher learning, it has been estimated that by 1952 enrolment will reach a new peak. Under these circumstances there is pressure on college investment officers to put endowment funds into various types of buildings, notably housing facilities for students and faculty.

Some investments of this character have been fair producers of income over a period but others have not, and caution seems a desirable watchword in this field at this time. For one thing, while there may be debate as to how much construction costs will decline, there can be no argument that the present level is at an all-time peak, thus requiring a continuing high level of rents to secure even a modest return. If enrolment should experience some lean years, the demand for student and faculty housing might recede, bringing about vacancies or lower rents. Moreover, not infrequently a decline in other sources of college income, such as investment income and student fees, occurs at precisely the time (during a depression) that faculty and students bring pressure on administrative officers to reduce rents. Under all these circumstances it would seem prudent to go slow in investing endowment funds in revenue-producing college plant.

Ownership and Operation of Business

In the past several years a number of colleges have acquired directly, or more commonly indirectly through a charitable trust set up for the purpose, businesses in their entirety. A typical procedure is for alumni or friends of an institution to set up a charitable trust, all of whose income, when distributed, must be paid to the college for educational purposes. Under present Internal Revenue Department rulings and interpretations, the operation of a business owned by such a trust is exempt from federal income tax, so the college obtains not only the return accruing to ordinary ownership but also the benefit of the tax saving. The business is usually acquired for a small cash down payment, the balance of the purchase price being paid over a period of time out of the earnings and tax savings of the business. Thus the financial risk to the college is nil and to the individuals setting up the trust is minute, while the ultimate return may be very substantial. Moreover, an

exempt charitable trust is able to pay a higher price for the business than would a tax-paying buyer and the seller takes his profit at capital gain rates rather than at high personal income tax rates on generous dividend distributions over a period of years. Finally, the seller is usually continued as manager of the business.

This procedure, already investigated by the House Ways and Means Committee, has been attacked on the grounds that it is immoral, that it results in unfair competition with tax-paying enterprises, that it is an abuse of the present tax exemption enjoyed by colleges, etc. While it is true that Congress may never have intended for a business to be operated tax-free by a charitable trust and for colleges to take advantage of the tax saving, it does not follow that tax avoidance by educational institutions is any more reprehensible than similar action by corporations and individuals. Moreover, on close examination the distinction between a college not paying a tax on the income of a business and not paying a tax on income from interest, dividends, and operated real estate held for investment is found to be purely a matter of tradition; there is no moral or legal difference and, as to each kind of income, there is competition with private enterprise.

The only competitive advantage a tax-free owner of a business has over his tax-paying competitor is his ability to retain and use in the business the 38 per cent tax his competitor must pay to the government. Tax exemption does not create profits. If the charitable trust distributes to the college the 38 per cent which the competitor pays to the government, there would be no unfair competition.

It is true that a charitable trust can afford to pay more for a business than a tax-paying buyer and, to the extent it does so, the trust is in effect sharing its tax exemption with the seller.

From the point of view of the college three other points may be mentioned. First, an aroused tax-paying electorate which sees large business activities carried on without taxation may upset existing exemptions on a wide scale. This could adversely affect the present exempt status of colleges and result, for example, in income from operated real estate held for investment being subjected to income tax. Also, corporate and individual gifts to a college may be reduced by those who feel the college, in operating a business tax free, is unfairly competing with private enterprise or abusing its tax-exemption privilege. Lastly, while the college may not at first be directly involved in management, it may ulti-

mately become involved, and the acumen of colleges in handling corporate operating problems may be seriously questioned.

This entire matter is a highly controversial one upon which legislation may be forthcoming in the next year or two.

Unorthodox Investments

College investment officers are constantly exploring unorthodox outlets for funds in their efforts to obtain a better-than-average return. For example, at the University of Chicago we have acquired non-marketable bonds and preferreds, made collateral loans, purchased vacant land (albeit income-producing as an automobile parking lot), bought a mortgage secured by a golf course, and lent money to a partnership. But these are isolated transactions, and the great bulk of our holdings and those of other colleges continues to be in the traditional fields of marketable bonds, preferred stocks and common stocks, and in real estate mortgages and real estate.

Summary

In summary, the impact on the economy of college investments is small and the rate of asset growth minute compared to insurance companies and banks. Investment policy is relatively free of legal restrictions, there is no restraint due to the necessity of maintaining ready convertibility into cash, and purchasing power is a major goal.

The most important tendency in college investments in recent years, and one which is continuing, has been the great increase in common stock holdings. This growth in equity position has resulted in maintenance of a larger rate of return, promises bigger, though less stable, income in the future and has given rise to the adoption of income reserve plans. Colleges should readily be able to withstand the violent fluctuations in market value of their holdings. Formula plans for more objective handling of portfolios are deservedly growing in popularity. Colleges have done their share in supplying risk capital to an economic system sorely in need of it. Finally, the large equity position should enable colleges better to preserve their purchasing power over a long period of time.

Real estate purchases and lease-backs carry hidden risks and will have only limited use as an investment media unless the rate greatly improves. Colleges are still shortening bond maturities, generally without loss of income. To have appeal, new issues of preferred stocks must be convertible or possess liberal sinking

funds. Employment of professional advice in the management of portfolios should increase.

Investment of endowment funds in student and faculty housing, especially at the present level of building costs, warrants considerable caution. A highly controversial matter is the extent to which colleges should directly, or indirectly through charitable trusts, purchase entire businesses and operate them on a tax-exempt basis.

The search for unorthodox outlets for funds as a means of increasing income persists, but the traditional fields of marketable bonds, preferred stocks and common stocks, and mortgages and real estate seem likely to continue to dominate college investments.

POSTWAR CHANGES IN COMMERCIAL BANK INVESTMENTS IN U.S. GOVERNMENT SECURITIES*

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INTRODUCTION

Government obligations held by the commercial banks have decreased by about $30 billions from their postwar peak of $93 billions on February 28, 1946.[1] The factors responsible for this decline are analyzed in the following section of this paper. A later section will described and analyze the changes which have taken place in the maturity distribution of commercial bank government security portfolios.

FACTORS RESPONSIBLE FOR THE DECREASE IN THE TOTAL AMOUNT OF GOVERNMENT SECURITIES HELD BY COMMERCIAL BANKS

Changes in the balance sheet status of all commercial banks between December 31, 1945, and September 29, 1948, show that the decline of $28 billions in government securities was roughly offset by a rise in loans of nearly $16 billions and by a decrease in deposits of $11 billions.

Net changes in balance sheet items do not entirely reveal the nature of the forces causing the decline in holdings of government securities. During the period three basic factors were at work causing commercial bank investments in government securities to decline. These were: (1) the retirement by the Treasury of government securities held by the commercial banking system; (2) sales of government securities by commercial banks for the purpose of making loans to private borrowers; and (3) sale of government securities to meet increases in reserve requirements.

Between February 28, 1946, and September 30, 1948, the Treasury retired about $41.4 billions of marketable obligations, of which about $17.0 billions were held by the commercial banks represented in the Treasury Survey of Ownership,[2] $12.8 billions by

*The editors, to reduce expense of publication, have eliminated a number of supporting tables which were included in the original paper.

[1]Government obligations held by the commercial banks now represent 41.8 per cent of their total assets and about 38.3 per cent of the total outstanding marketable debt. Holdings of commercial banks are about 46.9 per cent of the privately held marketable supply (omitting amounts held by the Federal Reserve banks, government agencies, and trust accounts).

[2]There were 7,283 banks in the U. S. Treasury Survey of Ownership of U. S. government securities. On September 30, 1948, these banks held $56.5 billion of marketable government securities, or about 90.5 per cent of the amount held by all commercial banks.

the Federal Reserve banks, and the remainder, $11.6 billions, by other investors.[3]

On the basis of the ownership of debt which was redeemed, debt retirement accounted directly for $17 billions of the decrease in the amount of government securities held by the commercial banks. These redemptions, in net effect, involved the cancellation of deposit liabilities against the government securities redeemed. In meeting these redemptions the Treasury used either existing War Loan deposits or deposits which were acquired currently from private holders either by taxation or borrowing.

The redemption of securities held by Federal Reserve banks was an indirect cause of sales of government securities by commercial banks, although it is not possible to measure the actual extent of sales so caused. Theoretically, the redemption of securities held by the Federal Reserve banks involves the net withdrawal of funds from the commercial banks, which, in turn, is reflected in corresponding reductions in both the reserves and the deposits of commercial banks. Therefore, by redeeming securities held by the Federal Reserve banks the monetary authorities, if they so desire, can reduce the reserves of commercial banks and thereby force them to curtail loans or to liquidate securities. However, during the period under review the monetary authorities in practice relied upon the redemption of securities held by the Federal Reserve banks primarily to nullify increases in reserves which were being caused by market purchases of securities by the Reserve System, by the rise in gold stocks, and by the return of currency from circulation.

In contrast with the preceding cases involving the redemption of securities held by the banking system, the redemption of securities held by non-bank holders involved no net change in the assets or liabilities of the commercial banks. These redemptions merely involved a transfer in the ownership of deposits. The funds employed in debt redemption remained in the banking system.

Although, as explained earlier, debt retirement in theory produces a net reduction in the reserves of commercial banks only if the securities redeemed are held by the Federal Reserve banks, in

[3]Including commercial banks not covered by the Treasury Survey of Ownership. Estimates obtained by allocating the amount of each issue redeemed among investors on the basis of ownership on the latest survey date preceding redemption. Net retirements of Treasury bills are allocated entirely to the Fereral Reserve.

practice, redemption transactions, like other Treasury operations, temporarily affect the reserves of the commercial banks, and, consequently, may induce sales or purchases of securities. The reasons for this lie in the depository practices of the Treasury and in the short-run disequilibrium between total cash receipts and total cash disbursements.[4] At various times during the period under review collection of funds for the retirement of securities held outside the Federal Reserve banks involved a decrease in the reserves of member banks caused either by the calling of War Loan balances or by the accumulation of net operating receipts in the Treasurer's accounts with the Federal Reserve banks. Later when redemption payments were made, the commercial banks regained the reserves previously lost.

Over the period of debt retirement the actual net decrease in the amount of government securities held by the commercial banks amounted to $29.8 billions. This exceeded the amount of redemptions, $17 billions, indicating net sales by the commercial banks of $12.8 billions.

The net sales by commercial banks were occasioned mainly by the need of individual banks to meet demands for private loans but also at certain times, as mentioned above, by the need to replenish reserves drawn down by the redemption of securities, and to meet higher requirements, as explained at a later point.

In contrast with commercial banks, other credit institutions were able, until the past year, to make loans and to purchase private securities without liquidating government securities. Insurance companies and savings banks, for example, derived the major portion of their loanable funds from the accumulation of personal savings and to some extent from the reinvestment of earnings.

The securities sold by the commercial banks were absorbed for the most part by the Federal Reserve banks in market support

[4]It is the practice of the Treasury to deposit the major portion of operating receipts in the Federal Reserve banks rather than in commercial banks and to pay virtually all expenditures, including those for debt redemption, by checks drawn on the Treasurer's accounts with the Federal Reserve banks. Even those receipts which are first deposited in the commercial banks (a portion of the taxes withheld by employers and a portion of the proceeds from the sale of savings bonds) are in practice transferred to the Treasurer's accounts with the Federal Reserve banks before being used to pay expenditures. The practice of depositing certain receipts in War Loan accounts with commercial banks permits withdrawals from commercial banks for debt retirement to be timed more appropriately with the need to control member bank reserves.

operations, as shown in Table 1. The purchases by the Federal Reserve banks would have caused a rise in member bank reserves,

TABLE 1

NET MARKET PURCHASES (+) AND SALES (—) OF VARIOUS INVESTOR CLASSES
(In Billions of Dollars)

	Feb. 28, 1946 to Dec. 31, 1946	Dec. 31, 1946 to Dec. 31, 1947	Dec. 31, 1947 to Sept. 30, 1948	Totals
Commercial banks	—5.8	—2.4	—4.6	—12.8
F. R. banks	+5.0	+2.4	+5.9	+13.3
U. S. govt. agencies and trust funds	—0.7	—1.1	+0.3	— 1.5
Insurance cos. and savings banks	+1.5	—0.1	—2.6	— 1.2
All others	+0.3	+1.2	+0.9	+ 2.4

had it not been for the redemption by the Treasury of a comparable volume of Reserve Bank-held securities. In this matter, the commercial banks, in meeting the loan demand, were prevented from expanding their deposit liabilities.

However, redemptions of government obligations held by the Federal Reserve banks were not at all times large enough to prevent the commercial banks from financing a part of the rise in their loans and other investments by deposit expansion. For example, in 1947 the increase in loans and private securities of the commercial banks was $7.8 billions as compared with net sales of government securities amounting to $2.4 billions, the difference representing roughly the extent to which private loan demands were met through deposit expansion.

In order to prevent the very rapid loan expansion during the latter half of 1947 from increasing the deposits of commercial banks, the authorities found it necessary to increase the redemptions of government securities held by the Federal Reserve banks.[5] The amount of these redemptions had been decreasing as the supply of funds available for debt retirement diminished. Consequently, after October 31, 1947, it became necessary to apply an increased proportion of the funds to redeem the holdings of the Federal Reserve banks. Thereafter virtually all planned redemptions were made from the holdings of the Federal Reserve banks.[6]

[5]Moreover, both reserves and deposits of member banks were being increased by Reserve System purchases of government securities from non-bank sellers, principally insurance companies.

[6]Between October 31, 1947, and September 30, 1948, about $8.8 billions of marketable debt was redeemed of which $6 billions, or 68.5 per cent was redeemed from the holdings of the Federal Reserve banks. On the remaining $2.8 billions redeemed from others, only $0.5 billions were planned redemptions, while $2.3 billions were voluntary redemptions by private investors.

Regulatory increases in reserve requirements of commercial banks were a factor of importance during 1948 causing the sales of securities by commercial banks. Certainly, the net decrease in bank holdings would have been smaller if required reserve percentages had not been raised. The aggregate increases in the required reserves of member banks during 1948 amounted to about $3 billions. Although on an overall basis a large part of the increase in reserve requirements may be said to have merely sterilized new reserves arising from Reserve System purchases of government securities from non-bank sellers, the timing of the increases in requirements was such as to force the commercial banks to sell securities.

The preceding analysis shows that the chief cause of the decline of $29.8 billions in government securities held by the commercial banks was the debt retirement program. Debt retirement accounted directly for about $17 billions of the reduction. The remainder was accounted for by net sales by commercial banks, amounting to $12.8 billions, which were necessitated mainly by the increase in their loans. Because of the redemption of securities held by the Federal Reserve banks, the reserve positions of commercial banks were under pressure and, consequently, commercial banks were unable to meet the loan demand through deposit expansion except at certain times, and then only to a minor extent. A third factor which caused banks to liquidate government securities during 1948 was the increases in reserve requirements.

Changes in the Maturity Distribution of Commercial Bank Investments in U. S. Government Securities

The present section of this paper is devoted to an analysis of the changes which occurred between February 28, 1946, and September 30, 1948, the period of debt redemption, in the maturity distribution of commercial bank investments in government securities.

Chart I, covering the period 1942 to 1948, shows the amount of government securities held by the commercial banks in each of the several maturity classes reported in the U. S. Treasury Survey of Ownership. An analysis of the factors causing net changes over the period February 28, 1946, to September 30, 1948, is given in Table 2.

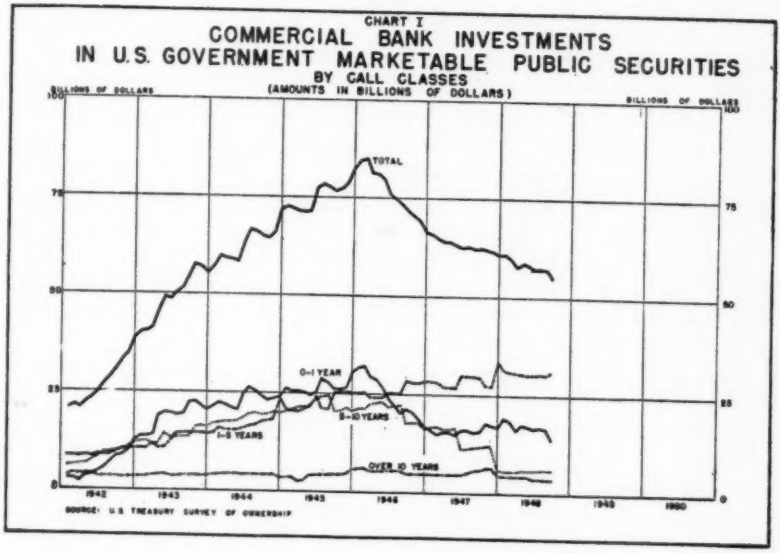


CHART I
COMMERCIAL BANK INVESTMENTS
IN U.S. GOVERNMENT MARKETABLE PUBLIC SECURITIES
BY CALL CLASSES
(AMOUNTS IN BILLIONS OF DOLLARS)
BILLIONS OF DOLLARS
TOTAL
0-1 YEAR
5-10 YEARS
1-5 YEARS
OVER 10 YEARS
1942
1943
1944
1945
1946
1947
1948
1949
1950
SOURCE: U.S. TREASURY SURVEY OF OWNERSHIP

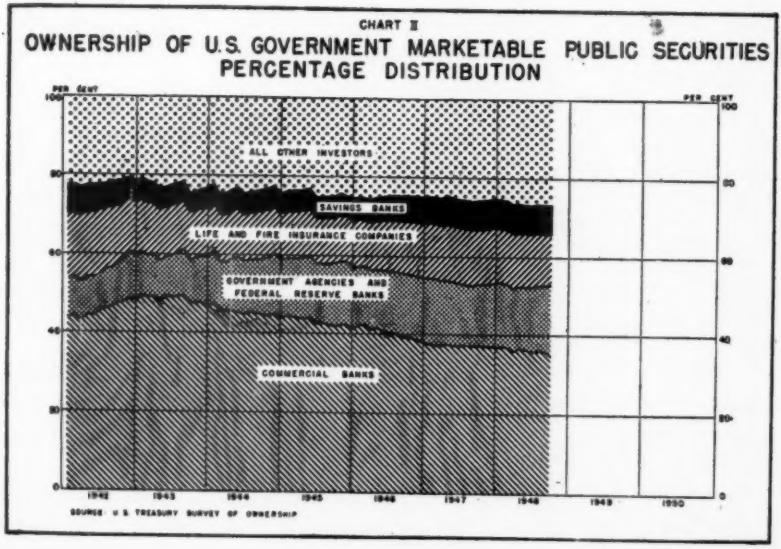


CHART II
OWNERSHIP OF U.S. GOVERNMENT MARKETABLE PUBLIC SECURITIES
PERCENTAGE DISTRIBUTION
PER CENT
ALL OTHER INVESTORS
SAVINGS BANKS
LIFE AND FIRE INSURANCE COMPANIES
GOVERNMENT AGENCIES AND FEDERAL RESERVE BANKS
COMMERCIAL BANKS
1942
1943
1944
1945
1946
1947
1948
1949
1950
SOURCE: U.S. TREASURY SURVEY OF OWNERSHIP

TABLE 2

ANALYSIS OF CHANGES IN INTEREST-BEARING PUBLIC MARKETABLE SECURITIES OF COMMERCIAL BANKS BY CALL CLASSES (*)

FEBRUARY 28, 1946, TO SEPTEMBER 30, 1948

(In Millions of dollars)

Call Classes	Actual Net Changes in Amounts Held	NET CHANGES DUE TO			Net Market Purchases(+) or Sales(—)
		Passage of Time	Refundings	Redemptions	
Within 1 year	—18,017	+12,995	—1,876	—16,976	—12,160
1-5 years	+ 6,013	+ 7,596	+1,876	0	— 3,459
5-10 years	—15,201	—18,221	0	0	+ 3,020
10-15 years	— 2,217	— 2,363	0	0	+ 146
15-20 years	+ 2,082	+ 2,780	0	0	— 698
Over 20 years	— 2,474	— 2,787	0	0	+ 313
FHA debentures	— 6	0	0	0	— 6
Total	—29,820	0	0	—16,976	—12,844

*Commercial banks in U.S. Treasury Survey of Ownership.

Certain changes in bank holdings were caused by factors over which the banks exercised no control, such as the passage of time and the redemption and refunding of maturing securities by the Treasury. These factors affected the structure of the market supply and, consequently, affected the maturing distribution not only of the holdings of commercial banks, but of all other investors. Other changes in the holdings of commercial banks were brought about by the investment decisions and resulted in market purchases or sales of securities. Such transactions altered the ratio of bank holdings to outstandings in each class, an aspect of the analysis which is discussed at a later point in connection with Chart IV.

The analysis in Table 2 shows that in the "within 1 year" class the decrease of $18,017 millions was roughly equal to the sum of redemptions, amounting to $16,976 millions, and of those refundings which involved an exchange into securities of more than one year maturity, amounting to $1,876 millions. The net sales of securities in the "within 1 year" class, amounting to $12,160 millions, were only slightly less than the amount of securities which shifted in the course of time into the "within 1 year" class from the 1 - 5-year class.

In the 1—5-year class the rise of $6,013 millions was caused by shifts resulting from the passage of time and from refundings, together amounting to $9,472 millions, which were partially offset by net market sales of $3,459 millions.

In the 5 - 10-year class the decrease of $15,201 millions was caused by a net shift of $18,221 millions with the passage of time,

offset to a relatively minor extent by net market purchases of $3,020 millions.

For those maturity classes over ten years the net decrease in holdings was $2,609 millions. This decrease is explained almost entirely by the shift of $2,370 millions of securities into the 5 - 10-year class with the passage of time. Net market sales amounted to only $239 millions.

Analysis of market purchases and sales of government securities by the commercial banks during the period of debt redemption indicates, as shown in Table 3, that in the period before October, 1947, sales of securities of less than five years' maturity were made in part for the purpose of purchasing securities of more than five years' maturity. These transactions were motivated by the desire of the banks to maintain their earnings which were being

TABLE 3

NET MARKETABLE PURCHASES (+) AND SALES (—) OF INTEREST-BEARING PUBLIC MARKETABLE SECURITIES OF COMMERCIAL BANKS BY CALL CLASSES (*)
FEBRUARY 28, 1946, TO SEPTEMBER 30, 1948
(In Millions of Dollars)

Call Classes	February 28, 1946 to October 31, 1947	October 31, 1947 to September 30, 1948	February 28, 1946 to September 30, 1948
Within 1 year	—9,949	—2,211	—12,160
1-5 years	—1,028	—2,431	— 3,459
5-10 years	+2,988	+ 32	+ 3,020
10-15 years	+ 406	— 260	+ 146
15-20 years	+ 7	— 705	— 698
Over 20 years	+ 321	— 8	+ 313
FHA debentures	— 2	— 4	— 6
Totals	—7,257	—5,587	—12,844

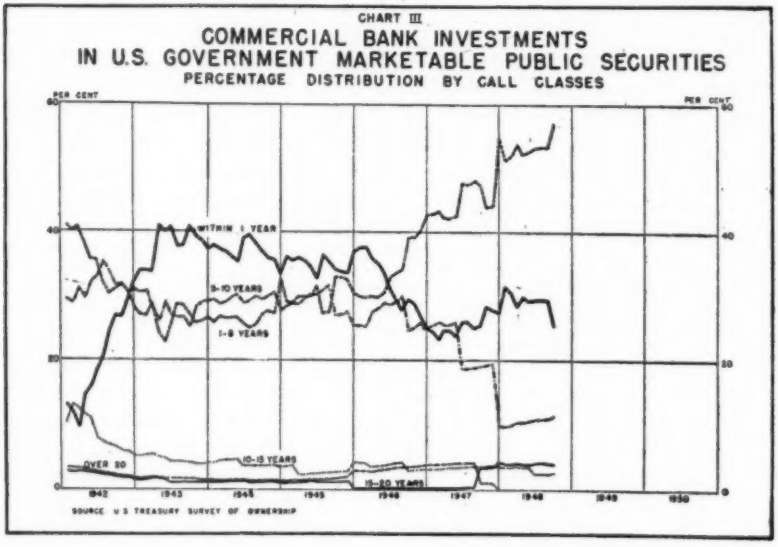
*Commercial banks in the U.S. Treasury Survey of Ownership.

reduced by the heavy redemptions as well as by rising operating costs. However, these transactions were not on a sufficiently large scale to offset the influence of time in shortening the average maturity of bank portfolios (see Chart V).

After October, 1947, sales took place in all maturity classes. The reversal in maturity policy which occurred in late 1947 was influenced by uncertainty over the stability of the long-term bond market and the permanence of Federal Reserve System support as well as by the availability of higher yields on investments in short-term government securities.

The combined result of redemptions and sales of securities by the commercial banks was to reduce the percentage of outstanding marketable securities held by the commercial banks, as shown in Chart II. The percentage of outstanding securities held by the

commercial banks in the Treasury Survey decreased from 42.4 per cent on February 28, 1946, to about 34.7 per cent on September 30, 1948. Most of this decrease occurred in 1946 and resulted from the fact that a high proportion of redemptions was made from commercial banks.



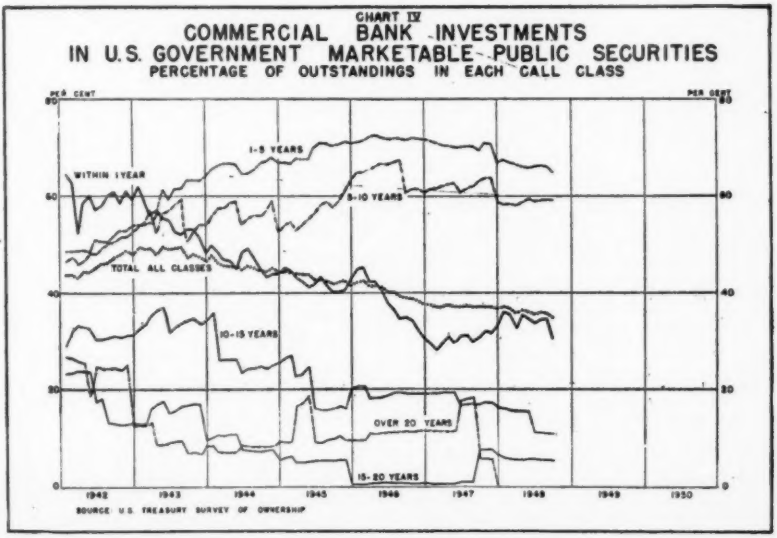
In Chart III the amount of securities held by the commercial banks in each maturity class is expressed as a percentage of the total amount held by the commercial banks. This chart therefore portrays relative changes in the maturity composition of commercial bank investments.

The most striking change in the maturity composition of commercial bank investments during the period of debt redemption was the rapid and pronounced rise in the percentage of total investments in the 1 - 5-year class and the decline in the percentage in the 5 - 10-year class. These changes corresponded with one another and were caused in large measure by the passage of time which, as previously explained, involved the shifting of large amounts of securities from the 5 - 10-year class to the 1 - 5-year class. Consequently, these changes did not reflect alterations in investment policy. As already noted, the banks sold securities in the 1 - 5-year class and before October, 1947, bought securities in the 5 - 10-year class.

In Chart IV the amount of securities in each maturity class held by the commercial banks is expressed as a percentage of outstandings in that class. (The total line in this chart is the same as the line for commercial banks in Chart II.)

Chart IV affords a more reliable indication of those changes in bank holdings which were caused by market transactions than does Chart III. Nevertheless, the percentage lines in Chart IV, like those in Chart III, are affected by the shifting of securities from one class to another with the passage of time. The shifting of certain issues from one maturity class to another sometimes produces uneven jumps in the percentage lines representing maturity classes. These jumps are due to the irregular maturity spacing of outstanding issues and to differences in the proportions of individual issues held by the commercial banks. Lack of uniformity in the proportions of individual issues held by the commercial banks is explained not only by maturity preferences but also by restrictions on ownership, and by other considerations, such as coupons, tax status, etc.

Chart IV shows that over the period of debt retirement holdings of commercial banks in all maturity classes except the 15 - 20-year class decreased in relation to the outstanding supply. The discrepancy in the 15 - 20-year class was caused by the shift in Sep-



tember, 1947, of the 2½ per cent bank eligible bonds of September, 1967-72 from the "over 20" year class into the "15-20 year" class.

In the "within 1 year" class the steady decline in the ratio of bank holdings to outstandings which took place between February, 1946, and March, 1947, was caused mainly by the large redemptions of commercial bank holdings. The subsequent increase in the relative amount held by commercial banks was due to the combined influence of diminished redemptions and market purchases, the latter being induced by the higher rates prevailing after the middle of 1947 on short-term securities.

In the 1—5-year class the ratio of bank holdings to outstandings decreased rather steadily, reflecting sales by the commercial banks. In the over five-year classes, ignoring discrepancies caused by the shifting of certain issues, there was a tendency for bank holdings to increase relative to outstandings until late in 1947, reflecting market purchases by the banks. After October, 1947, the banks became sellers of over 5-year securities and the proportion of outstandings tended to diminish as these securities were acquired by the Federal Reserve banks in their market support operations.

Chart V, covering the period December 31, 1945, to September 30, 1948, shows the weighted average life (based on call dates) of the government securities held by commercial banks in the Treasury Survey and by New York City banks.[7] For comparative purposes the top line in Chart V shows the weighted average life of all outstanding marketable government securities.

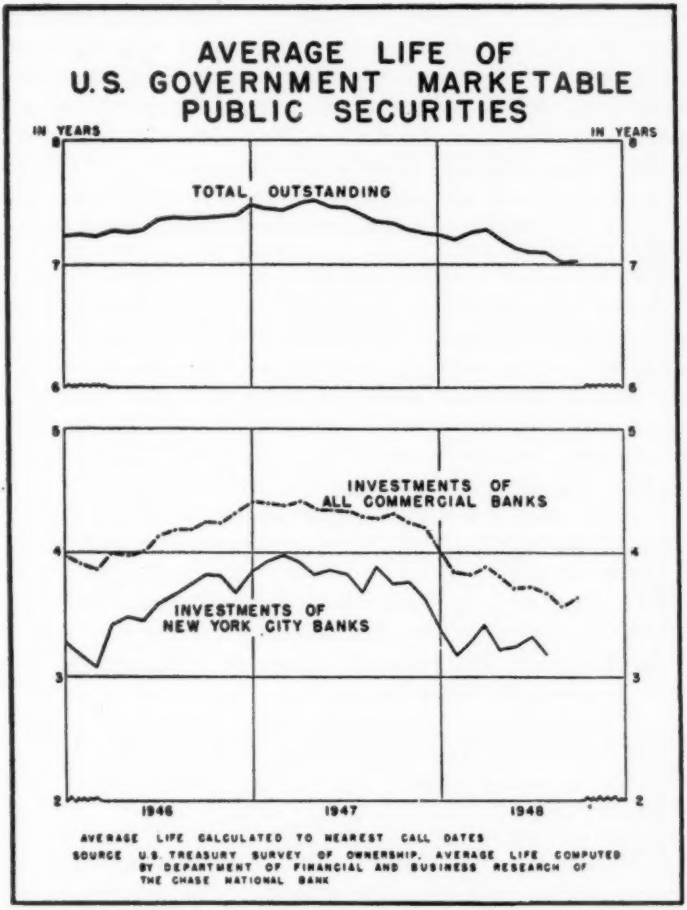
It is apparent that the increase in the average life of commercial bank holdings during 1946, and the subsequent decrease in average life in 1947 and 1948, paralleled changes in the average life of the outstanding marketable debt.[8] In 1946 the increase in average life of commercial bank holdings was mainly due to the large redemptions of maturing securities, which factor more than offset influences tending to shorten maturity, such as the passage of time and the refunding of maturing issues into one-year obligations.

If on the basis of commercial bank holdings at the beginning of the year 1946 all maturing issues held by the commercial banks had been redeemed, average life would have lengthened by about twelve months by the end of 1946, i.e., from roughly four years to

[7] 35-37 Central Reserve City banks.

[8] Changes in the average maturity of the outstanding debt reflect the influence of the passage of time and other structural changes caused by redemptions and refundings, but, naturally, are not affected by market transactions.

CHART V



five years. As it was, about $11.9 billions, or 56 per cent of the maturing securities held by the commercial banks were redeemed, the unredeemed securities being exchanged for new obligations of very short maturity. As a result of the combined influence of the passage of time, redemptions, and refundings on the basis of holdings at the beginning of the year, average life would have increased by about 2½ months. The actual increase in average life was about five months, indicating that during 1946 the deliberate lengthening by the banks through market action was not great.

In 1947 and 1948 the average life of outstanding marketable securities shortened. After late 1947 the amount of securities redeemed from commercial banks decreased greatly because the funds available for debt retirement were diminished and because planned redemptions were confined almost entirely to securities held by the Federal Reserve banks. The combined influence of the passage of time and the policy of the Treasury in refunding the unredeemed portion of maturing issues into obligations of not more than one year were positive factors causing average life to shorten.

Theoretically the refunding of maturing issues may either shorten or lengthen the average life of outstandings depending upon the maturing of the new issues issued in exchange. Since the end of the war the Treasury's policy has been, with only minor exceptions, to refund that part of unredeemed maturing issues on an exchange basis into new obligations of not more than one year's maturity. Since a large share of the maturing issues were held by the commercial banks, this practice in the course of time tended to increase the supply of very short-term securities and to reduce the supply of intermediate securities. This influence upon the composition of bank holdings was obscured before 1947 by the large and continuous redemptions of maturing issues and to some extent before late 1947 by market purchases of longer-term securities by the commercial banks.

If the policy of refunding virtually all maturing issues into obligations of one year or less is continued in the future, it will result after the next several years in substantially increasing the amount of debt outstanding in the one-year class and in eliminating a large part of the outstanding debt in the intermediate maturity range.[9]

After October, 1947, the decrease in the average life of commercial bank holdings became more rapid than theretofore. This was due to the added influence of market sales by commercial banks of longer-term securities. As noted earlier commercial banks before October, 1947, had purchased longer-term securities with funds obtained from the sale of short-term securities. Market

[9]The amount of one-year marketable obligations now outstanding is about $44 billion (based on call dates) and, on the assumption of a balanced cash budget, it is estimated that this amount will rise to about $93 billions after three years have elapsed.

sales were heaviest in the period October, 1947, to February, 1948, and again in the period July to October, 1948.

The preceding analysis of changes in the maturity composition of bank portfolios indicates that, considering the extent of the forces affecting bank holdings, maturity composition remained surprisingly stable. Moreover, it is evident that since the end of the war the commercial banks have continued to maintain a large proportion of their investments in short-term securities. This is an interesting development in view of the fact that the entire market in government securities has been made highly liquid and that investors in long-term obligations have been protected from price declines through Federal Reserve System support.

CONCLUSIONS

The future course of commercial bank investments in government securities will be influenced by three factors of basic importance. These are the interest rate policy of the Federal Reserve System, the federal budget, and the management of the debt structure by the Treasury. Unless basic modifications are made in market support and debt management policies commercial bank investments should remain at a high level and in the long run tend to increase both absolutely and relative to the outstanding market supply (omitting amounts acquired by the Federal Reserve System).

As long as the Federal Reserve System is prepared to purchase government securities at prices corresponding to rigid sub-market yields, the marketable debt in effect is made redeemable on demand at the option of the holder regardless of the contractural terms of individual issues. Through administrative action the longer-term securities are vested with liquidity comparable to that which short-term securities enjoy by virtue of their nearness to maturity. Under such conditions commercial bank investors may be induced to switch from short- to longer-term higher yielding maturities without sacrifice of liquidity.

Heretofore, commercial banks have not aggressively undertaken to lengthen the average maturity of their portfolios. Apparently they anticipated rising rates (that is, possible price declines in longer-term securities) and they seem to have had surprisingly little confidence in the maintenance of the support pegs. However, the longer the Reserve System continues rigidly to support

the bond market at or above par, the greater the likelihood that banks will be induced to lengthen their portfolios. If Reserve System support at par should become established as a permanent commitment, a differential between short-term and long-term rates will encourage the switching from short- to longer-term obligations by investors. Under these circumstances the monetary authorities may eventually be led to establish more nearly uniform rates of interest for all maturities or to seek to prescribe by regulation the minimum amount of government securities to be held by the commercial banks as well as by other investors. Otherwise bank reserves will tend to rise because of the absorption of securities by the Federal Reserve banks. The continued maintenance of low interest rates through Federal Reserve System support, therefore, implies in the long run a rising level of reserve requirements.

The postwar policy of refunding the unredeemed portion of virtually all maturing obligations into new one-year certificates of indebtedness will inevitably bring about a large increase, both absolute and relative in the amount of short-term debt unless the Treasury can continue to redeem maturing debt with surplus operating income or with funds raised by the sale of non-marketable long-term obligations to non-bank purchasers. The surplus now threatens to disappear and it is doubtful that large amounts for retirement of maturing marketable debt can be raised by the sale of savings bonds or other long-term obligations at prevailing rates of interest. Without upward adjustments in the rate structure, funding operations of this character will prove abortive.

If the short-term debt does rise further it therefore must be lodged in the banking system. It is unlikely that the commercial banks will be willing to absorb large additional amounts of short-term debt except at higher rates of interest. If the authorities insist upon the maintenance of low short-term rates, either the Reserve banks will be forced to absorb the increase in outstanding short-term securities, or it will be necessary to compel the commercial banks and other investors to hold these securities. In the former case, higher requirements would take the form of increases in the conventional type of cash reserve requirement. In the latter case, some form of government security reserve requirement would probably be attempted however unworkable such devices seem to be.

Present debt management and interest rate policies point in the same direction—they promise a high reserve requirement banking system with a large segment of the federal debt immobilized in the system. Although some bankers may be attracted by the earnings feature of security reserve requirements, they should not fail to recognize the extent to which high reserve requiremnts of any kind may limit their freedom of action in making customer loans. High reserve requirements will tend to destroy the inherent flexibility of a fractional reserve system in the accommodation of customers, will tend to reduce competition among banks, and will place deposit banking at a disadvantage with other lending institutions.

TRENDS IN INVESTMENT POLICIES OF INDIVIDUALS

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It would be interesting to present aggregate data on shifts in ownership of government bonds, corporate bonds, and listed stocks; on trends toward private placement; and on greater use of intermediate financial institutions. But, in deference to the numerous individual investors, large and small, trained and untrained, counseled and uncounseled, it would be difficult to draw valid conclusions. I propose to do something which is more fundamental, and perhaps more valuable to us in our profession, namely to trace the development of investment thought and apply the ideas to the many puzzling problems which investors are now facing. Obviously, it will be impossible to cover all literature in the field, so I shall limit myself to certain representative textbooks and monographs which have added appreciably to American investment thought, and which have influenced teachers and practitioners in the investment field. Undoubtedly, articles and pamphlets have greatly influenced all of us, but, of necessity, they cannot be included in a short review of investment thought. Since many of us have lived through much of the period under review, as students, teachers, investment bankers, investment counselors, investment managers, and investors, it is probable that our interpretations of the various contributions will not necessarily be in complete agreement.

I. PRE-WORLD WAR I PERIOD—NEW SOCIAL SCIENCE CENTERS ATTENTION ON BONDS AS PRIMARY INSTRUMENTS OF INVESTMENT

Chamberlain's *Principles*[1] codified investment thought as expounded by leading bond houses. He set the pattern for most of the subsequent texts.[2] Chamberlain's ideal investment was one in which the investor had obtained "(1) security for his principal,

*For permission to include quotations from various works as indicated in the citations which follow, the author expresses appreciation to the following publishers: Barron's Publishing Company, Inc.; Harper and Brothers; Henry Holt and Company, Inc.; The Macmillan Company; McGraw-Hill Book Company, Inc.; Prentice-Hall, Inc.; and John Wiley and Sons, Inc.

[1]Lawrence Chamberlain, *The Principles of Bond Investment*, 7th ed., (New York: Henry Holt & Co., 1911), pp. 551.

[2]Hastings Lyon took cognizance of Chamberlain's contribution in the preface to his *Investment* (Boston: Houghton Mifflin Company, 1926), pp. 602, "The writer pays his respects to those who have previously published in this field. When Chamberlain wrote his extensive work, there was no American book on investment that was not elementary. Indeed, there was hardly anything in book form on the subject as distinguished from other topics of private finance. Chamberlain brought the training of a scholar to the study of American investment and produced a work that proved the usefulness of scholarship in this subject."

(2) a fixed or definite interest, (3) a fair return in income, and (4) an investment which is salable without difficulty, and (5) is acceptable as collateral, and (6) is free from direct tax, and (7) requires almost no care, and (8) matures after a satisfactory lapse of time, and (9) is in convenient units of denomination, and (10) has as good a chance of appreciating as of depreciating as its qualities become more generally recognized."[3]

Since only a *loan* could meet those requirements, Chamberlain devoted his energies to an exposition of the principles and procedures for selecting specific bonds and mortgages which were "safe", but whose qualities were not yet generally recognized. Individual stocks, even when guaranteed, were speculative, and, therefore, not "safe." Chamberlain started the practice of attempting to distinguish between investment, speculation, and gambling, a practice which incidentally has given investment instructors opportunity for much interesting classroom debate. The concept of diversification did not appear until the 1927 edition.[4] Still further emphasizing the specific investment instrument, Chamberlain developed an elaborate classification of bonds (*a*) according to the character of the issuing corporation, (*b*) according to the character of the security of the bonds, (*c*) according to the purpose or function of the issue, and (*d*) according to conditions attending payment of principal and interest. Emphasis was on the bond instrument as an end in itself.

In direct contrast, a stimulating volume which appeared at about the same time forecast rising commodity prices and explained that during such a period "the most desirable form of investment is one which gives the investor a share in the ownership of a property or enterprise, i.e., stocks, real estate, or bonds carrying a stock bonus."[5] This was one of the early pronouncements on the purchasing power approach to common stocks. Since variation in purchasing power of money generally is more vital to the individual investor than to the institutional investor, it is appropriate that this study should pay particular attention to the purchasing power problem.

[3]*Op. cit.*, p. 28

[4]Lawrence Chamberlain and George W. Edwards, *The Principles of Bond Investment*, rev. and enlarged ed. (New York: Henry Holt & Co., 1927), pp. 699.

[5]G. Lynn Sumner's chapter in Irving Fisher, *et al*, *How To Invest When Prices Are Rising* (Scranton: G. Lynn Sumner & Co., 1912), p. 144. This volume was a natural sequel to Fisher's *The Purchasing Power of Money: Its Determination and Relation to Credit, Interest and Crises* (New York: The Macmillan Co., 1911), pp. 505.

II. The 1920's — Investment Attention Focuses on Common Stocks

A number of standard investment texts appeared in the 1920's. Typical of this group were Jordan, Lagerquist, Kirshman, Sakolski, Lyon, and Badger.[6] To the investment principles of Chamberlain they added diversification and moderate utilization of common stocks. Safety of principal and safety of income of specific instruments continued to be the cornerstones. More space was devoted to legality and priority of legal position of various types of instruments. They continued to emphasize the economic and legal *analysis* of broad groups of securities and their subdivisions—civil obligations, railroads, public utilities, real estate, and, somewhat timidly, industrials. It was essentially an "industry" and company approach to risk.

A. TEXTBOOKS EMPHASIZE ANALYSIS

The attitude of writers toward common stocks underwent a major change in the 1920's. Lagerquist[7] devoted a few sentences in his preface to the analysis of common stocks, but did not attempt to spell out their investment status. However, Lagerquist showed the influence of his teacher, Irving Fisher, through two chapters devoted to "Market Influences on Security Prices,"[8] which described the effects of changing interest rates and commodity prices on security prices. Of particular significance was a brief analysis of the use of certain common stocks as a partial hedge against declining purchasing power of the dollar. The other textbook authors of the period continued to emphasize analysis rather than policy or management, so stocks were covered principally by inference. They recognized that some common stocks could qualify as investments.

The early editions of Jordan's little text were particularly stimulating. He injected a novel measurement of risk with his definition

[6]David F. Jordan, *Investments* (New York: Prentice-Hall, Inc., 1921), pp. 423; Walter E. Lagerquist, *Investment Analysis* (New York: Macmillan Co., 1921), pp. 792; John E. Kirshman, *Principles of Investment* (Chicago: A. W. Shaw Co., 1924), pp. 902; A. M. Sakolski, *Principles of Investment* New York: The Ronald Press, 1925), pp. 503; Hastings Lyon, *Investment* (Boston: Houghton Mifflin Co., 1926), pp. 602; Ralph E. Badger, *Investment Principles and Practices* (New York: Prentice-Hall, Inc., 1928), pp. 915.

[7]*Op. cit.*, p. ix, "Stocks as such, have not been specifically treated. To have done so would have necessitated a considerable enlargement of a volume which is already large. As for the evaluation of corporation stocks, the author believes that the discussions in this volume apply equally to stocks and bonds, though such particular things as preferred stock regulations are not considered."

[8]*Op. cit.*, chaps. X and XI.

of investment. A true investment, he wrote, is a commitment of capital—

1. For use in production;
2. Entrusted to the management of another;
3. For which the primary purpose of the capitalist in making the commitment is to receive income by reason of the use in production; and
4. In which the estimated risk for use in production is not so great that the premium for risk is greater than the true income.[9]

If the total income from a security were twice that of "true income," as indicated by the yield on United States bonds, it could not be an investment, but if less than twice true income analysis might indicate that it was an investment. Jordan made a start in the direction of investment management by devoting chapters to the small investor, to fiduciary investments, and to business and security cycles.

B. SMITH REVOLUTIONIZED INVESTMENT THOUGHT

The early writers had difficulty, and not without cause, in establishing the logic that specific common stocks were investment instruments. However, in 1924, Edgar L. Smith[10] helped convince the public that a diversified group of selected common stocks was a "safe" investment because the combined market value had an upward secular trend and the average total income was satisfactory. He arrived at these conclusions as the result of studying past performance of stocks and bonds. He expressed his "Law of Increasing Stock Values and Income Return" as follows:

(1) Over a period of years, the principal value of a well diversified holding of the common stocks of representative corporations, in essential industries, tends to increase in accordance with the operation of compound interest.

(2) Such stock holdings may be relied upon over a term of years to pay an average income return on such increasing values of something more than the average current rate on commercial paper.[11]

It is not pertinent here to discuss how good the "proof" may have been, or how sound the explanations of why the "Law" works, namely, reinvested earnings and increasing population. Rather, it is a generally accepted fact that the studies of Smith, Van

[9]David F. Jordan, *Investments*, rev. ed., (New York: Prentice-Hall, Inc., 1924), p. 9.

[10]Edgar L. Smith, *Common Stocks as Long Term Investments* (New York: The Macmillan Co., 1924), pp. 129.

[11]*Ibid.*, p. 79.

Strum,[12] and others, plus a bull market, awakened the interest of the general public in common stocks as investment mediums.[13]

Because of the emphasis which Smith and Van Strum placed on the desirability of long-term or "permanent" holding of common stocks, many people have overlooked the contributions of these authors to investment management as such. Smith improved investment thought by defining investment as an act rather than as a type of security. To him, investment "implies the exercise of sound judgment only at the time the investment is made," while investment management is a "continuing act and implies the continuous application of judgment."[14]

Smith also made one of the early comprehensive statements of the principal functions of investment management in the following manner:

1. It will first establish a sound investment plan suitable to the purposes of the investor.
2. It will then determine what proportion of the fund under its management shall be in equities and what proportion in bonds under current industrial and economic conditions.
3. It will put itself in a position to watch for changes in conditions and be prepared to modify those proportions in harmony with such changes.
4. It will study the current conditions of various industries and groups of industries, and will select as its field a diversification of those which upon reliable data may be regarded as the more promising.
5. It will then examine the management and financial structure of the leading companies in these industries.
6. It will watch for changes both in the conditions of industries and of individual corporations and be prepared to change the investment to accord with sound analysis of the latest available information.
7. It will retain diversification as its fundamental principle, but will establish reasonable limitations to diversification in order not to dilute the quality of management applied.[15]

[12]Kenneth S. Van Strum, *Investing in Purchasing Power* (New York: Barrons, 1925), pp. 250.

[13]Badger, *op. cit.*, p. 252, referred to Smith's study in this manner in 1928: "Recent discussions of this nature have had a wide effect in awakening interest in common stocks as an investment medium. The old idea that bonds and preferred stocks constitute the only safe vehicle of investment and that common stocks are solely a speculative medium has rapidly changed and to-day many investors who formerly purchased nothing but bonds are changing their investment programs to include common stocks." Badger wisely cautioned that "there is, of course, the danger in some cases that this shift may be carried too far."

[14]*Op. cit.*, p. 115.

[15]*Op. cit.*, pp. 117-18.

Smith's contribution consisted not only in requiring a determination of an equity proportion in a fund, but also in specifying that the proportion should be changed when conditions change. He believed that only an investment fund serving many individuals could perform these functions satisfactorily.[16] His statement of principles has been adopted with only minor modifications by many investment trusts and investment counselors.

C. BARRON'S CONTESTS POPULARIZE COMMON STOCK THEORY

Smith's findings as to the long-term secular trend of common stock prices and Van Strum's analysis of the use of common stock as a hedge against declining purchasing power of the dollar had profound influence on the contestants in Barron's contests on investing for a widow in 1925[17] and investing for a business man in 1927.[18]

The three winners invested one-third to 40 per cent of the widow's funds in common stocks, nothing in preferred stocks,[19] and the balance in bonds. The fact that common stock prices in 1925 were at all-time highs up to that time did not deter the widow's investment advisers from buying the stocks indicated, because they were intended to be long-term holdings. Another part of the fund, of about equal size, was invested in long-term bonds, which were considered at the time to be high grade. The remaining 20 per cent or so was placed in a "liquid fund" consisting of cash, savings accounts, and short-term bonds. The purpose of the liquid fund was twofold, to hedge against a rise in interest rates and to provide means with which to purchase additional common stocks should they decline in price. In 1925, the bonds and stocks chosen yielded about the same rate so income was not an important factor in the decisions.

By 1927, common stocks were considered by Barron's contestants to be the primary investment mediums for the "business man," but not necessarily to the exclusion of bonds in all cases. The "equities" selected were "blue chips" rather than "specialties." They tended to have broad and active markets, to be established dividend payers, and to be representative of some fundamental business.[20] "Growth" stocks were favored. At the prices then

[16] *Op. cit.*, p. 118.

[17] *Investing for a Widow* (New York: Barron's, 1926), pp. 167.

[18] *Investing for a Business Man* (New York: Barron's, 1928), pp. 221.

[19] A number of the other contestants included a modest amount of preferred stocks.

[20] *Ibid.*, p. 130.

prevailing for stocks, some liquid funds were recommended for deferred purchasing power. The leading contestants suggested that between 25 per cent and 40 per cent of the funds be kept liquid. Recognition generally was given by the contestants to the difficulty of going from an all-cash position to securities at a given date, but the principal solution offered was to wait for some indefinite time to complete the purchases of the long-term holdings of both stocks and bonds. Review a year later (1928) by the winners resulted in some changes in items in the lists, but little general change in policy.[21]

D. ROSE ADVANCES INVESTMENT MANAGEMENT AS A PROFESSION

Rose[22] wrote the first of two studies on investment management in 1928. Since he had been trained in the pioneer investment counsel firm of Scudder, Stevens and Clark, his pronouncements represented the ideas of many professional investment counselors at that time. Rose was interested primarily in the measurement of investment accomplishment. He did this by comparing current income plus net appreciation or depreciation in the market value of a fund in a given year or in a specified period of years with "riskless rental value" of capital during the same periods.[23] He applied this measurement to the investment experience of fire insurance companies, the supervised fund of a wealthy individual, and Dow-Jones stock and bond indexes for various periods in the first three decades of this country. As expected, these studies confirmed the superiority of common stocks during the periods under review. Rose made a crude calculation to the effect that rising commodity prices and declining interest rates had been responsible for approximately 25 per cent of the upward trend in industrial stock prices and that "plowed-back" earnings accounted for the remainder.[24]

Rose summarized his attitude toward common stocks as follows:

> The compounding effect of reinvestment of excess earnings so much overshadows all other factors influencing the long-term trend of industrial stock values that it would appear that industrial stocks could be purchased with confidence in the continuance of this long-term upward trend so long as the industries supporting civilization

[21] *Ibid.*, pp. 187-122.

[22] Dwight C. Rose, *A Scientific Approach to Investment Management* (New York: Harper & Brothers, 1928), pp. 440; *The Practical Application of Investment Management* (New York: Harper & Brothers, 1933), pp. 286.

[23] Recently, investment managers and their critics have tended to compare investment accomplishment with appropriate stock and bond indexes. See periodical articles in *Barron's* on investment trust performances.

[24] *A Scientific Approach to Investment Management, op. cit.*, pp. 174-77.

move forward; so long as the dividends represent a conservative portion of total earnings; and *so long as the major part of excess earnings is not discounted in a greatly inflated market value.*[25]

Having studied the past performance of various types of securities, Rose outlined the fundamentals of a conservative investment plan:

1. A clear understanding of the major and minor investment objectives sought and of the relative importance of these objectives.
2. Knowledge of the important characteristics of the major types of investment available that may affect these objectives. (These characteristics may be discovered and most effectively analyzed through careful actuarial studies of investment experience over a long period of years.)
3. Recognition of the more important economic and financial forces operating to disturb present investment values.
4. An intelligent investigation and appraisal of the relative conditions of present health and prospects of different classes of industry and of the individual investment risks comprising each of these classes.
5. Maintenance of a constant hedging policy whereby the important investment objectives may be conservatively attained without endangering—by unwarranted reliance upon anticipated events that our limited knowledge may presume to foresee—a reasonably successful long-term accomplishment.[26]

Rose recognized that investors should be divided into those who are concerned primarily with maintenance and increase (1) in dollar value of principal and income and (2) in purchasing power of principal and income.[27] He provided one of the early lists of factors which influence an individual's investment plan:

1. Income from business and the nature of his business or profession.
2. Other income from trust funds, etc.
3. Age.
4. Number and age of dependents.
5. Amount of life, sickness, and disability insurance carried.
6. Amount of income that is being saved.
7. Probable duration of present income and likelihood of an increase therein.
8. Amount of real estate held, including mortgages placed thereon.
9. Inheritances which may be expected.
10. Special taxation problems.[28]

[25] *Ibid.*, pp. 178-179, italics supplied.
[26] *Ibid.*, p. 193.
[27] *Ibid.*, pp. 193-94.
[28] *Ibid.*, p. 229.

E. BADGER INCLUDES SOME INVESTMENT POLICY IN A TEXTBOOK DEVOTED PRIMARILY TO ANALYSIS

In 1928, Badger[29] attempted, at a very difficult time, to codify for college students and investors the investment principles and practices of the 1920's. In his introduction, Badger was moving in the direction of considering investment as an act rather than as a characteristic inherent in an instrument.[30] His chapter V on investment policy recognized that the "circumstances surrounding the beneficiaries of the funds" should be given consideration in "a definite and constructive investment program." He then proceeded to discuss some of the problems involved in investment of funds by the "business man," trust funds, insurance companies, and savings banks. The typical business man should, according to Badger, devote at least 25 per cent of his savings to life insurance. One-third to one-half of his free funds should be devoted to high-grade bonds to build a fund in "riskless investments." "Another portion" should be allocated to high-grade common stocks, some twenty in number, because "out of a group of well selected common stocks a majority will inevitably advance in value over a period of years. The combined value of the twenty should go up over any given ten-year period.[31] The selection should be from leading stocks in diversified industrial groups. Trading should not be attempted. Foregoing of current dividends in return for appreciation resulting from reinvested earnings might be good investment procedure. Purchase of undervalued bonds at a discount was also considered by Badger to be appropriate for the business man. His typical business man would never buy preferred stocks because he concentrates his investment risk in common stocks.

Badger was even more explicit in his use of liquid funds than were Barron's prize-winning contestants. During a normal period "well within the extreme high or low points," he suggested that 20 per cent of the fund be maintained in liquid form. After a long upturn in the market, he recommended conversion of some stocks into cash. After a long period of declining prices, he suggested that some, and possibly a substantial portion, of these funds should be put into high-grade stocks.

[29]Ralph E. Badger, *Investment Principles and Practices* (New York: Prentice-Hall, Inc., 1928), pp. 915.

[30]*Ibid.*, pp. 15-16.

[31]*Ibid.*, pp. 81-84. But note a careful statement of possible adverse factors during the "next decade," pp. 252-53, and other inherent dangers in common stock investment, pp. 253-55.

Badger suggested that the business man might make higher profits over a period of years by descending to middle-grade "business men's" bonds and preferred and common stocks, provided he could afford to take the risk and could devote the necessary time. Badger summarized his thoughts on speculative commitments as follows:

In other words, investors who are in constant touch with the market, whose judgment enables a selection of securities where risk is over-emphasized in current quotations, and who can afford to suffer occasional losses, may well use part of their funds in purchasing new and unsecured issues, common stocks, or the securities of companies in a weak condition, but whose prospects are good. They will be rewarded in so doing in proportion to their skill in analyzing accurately all the factors of the situation, but they will be penalized for their errors in judgment.[32]

Badger stimulated the thinking of students of investments by dividing securities into three economic rather than legal groups in his chapter XXXI:

1. Securities which are benefited by rising commodity prices and increased business activity to such an extent that these factors are the major items governing the direction of their trend.
2. Securities which are benefited by falling commodity prices and damaged by rising prices; but which, nevertheless, may profit more as a result of rising prices, on account of the greater volume of business that results, than they are damaged through the advance in operating costs so brought about.
3. High grade bonds and preferred stocks whose principal and income is limited, on the one hand, and definitely secured on the other.

F. "NEW ERA" ENDED

The "New Era" should not be closed without another reference to Irving Fisher,[33] who emphasized that fundamental changes were revolutionizing industry and were serving as a support to the high stock prices then prevailing. Bosland pointed out a little later, "The failure of these prophecies does not of necessity reflect upon the validity of the common stock theory itself.[34]

III. THE 1930's — INVESTORS EMPHASIZE TIMING, GROWTH, CLASSIFICATION, AND VALUATION

During the long and severe decline in security prices, 1929-33, relatively few writers on investment policy ventured to put their

[32] *Ibid.*, p. 110.

[33] Irving Fisher, *The Stock Market Crash—and After* (New York: The Macmillan Company, 1930), p. 286.

[34] Chelcie C. Bosland, *The Common Stock Theory of Investment* (New York: The Ronald Press Company, 1937), p. 9.

thoughts in print. Chamberlain took advantage of the stock market break to restate, in 1931, his thesis that, "Common stocks, as such, are not superior to bonds as long-term investments, because primarily they are not investments at all. They are speculations."[35]

A. INTEREST IN CHART READING IS REVISED — DOW THEORY POPULARIZED

Chart readers continued to expound their theories because of their belief that in the action of the market itself is to be found the secret of future security price action. Among these was Schabacker,[36] who attempted to describe the use of stock market charts primarily for trading purposes. It was Robert Rhea,[37] however, who helped popularize the now famous "Dow Theory," which applied chart reading to the longer swings, known as bull and bear markets. Since the fact that a bull market had changed to bear, or vice versa, was determined sometime after the turning point, purchases tended to be made in rising market and sales in declining markets. Formula plans, to be discussed later, have attempted to reverse this procedure. The original Dow Theory plan of investing called for complete investment in common stocks from the point where a bull market was confirmed until a bear market was confirmed, and a cash position until a new bull market was confirmed. Regardless of one's opinion of the Dow Theory, it is important to observe that it probably has more followers than any other plan.

2. GRAHAM AND DODD BREAK WITH TEXTBOOK TRADITION

Much credit is due to Graham and Dodd[38] for their bold and challenging approach. They wrote, in 1934, one of the few texts which can be used satisfactorily for advanced courses in investment theory. It is remarkable that they were able to maintain a reasonably balanced perspective after the severe declines in both bond and stock prices. They used the 1927-33 period as an extreme laboratory test and not "a proper norm by which to judge the future of investment."[39] They decided that while the doctrine

[35]Lawrence Chamberlain and William W. Hay, *Investment and Speculation* (New York: Henry Holt & Company, 1931), p. 55.

[36]R. W. Schabacker, *Stock Market Theory and Practice* (New York: B. C. Forbes Publishing Company, 1930), p. 875.

[37]Robert Rhea, *The Dow Theory*, abridged ed. (privately printed, 1932), pp. 111. Rhea drew heavily on the earlier writing of Charles H. Dow and William P. Hamilton.

[38]Benjamin Graham and David L. Dodd, *Security Analysis* (New York: McGraw-Hill Book Company, Inc., 1934), pp. 725.

[39]*Ibid.*, p. 6.

of common stocks as long-term investments seemed discredited, investment in common stocks was a sound principle which had been misapplied.[40] "Fixed-value investments" (to be discussed later), had to be approached, however, "from the viewpoint of calamity."[41]

1. *Idea of intrinsic value.*—Graham and Dodd devoted considerable attention to "bargain issues" and "intrinsic value." Intrinsic value is an unfortunate term because of its disrepute in the field of economics. Despite the fact that they defined the term as "that value which is justified by the facts" as distinct "from market quotations," they do not mean that the calculation is exact. "It needs only to establish either that the value is *adequate*" or "that the value is considerably higher or considerably lower than the market price." Its flexibility may be expressed by a "range of approximate value."[42]

Graham and Dodd discussed four fundamental elements in analysis, (1) the security, (2) the price, (3) the time, and (4) the person. Their conclusion was that while the untrained security buyer should "not put money into a low-grade enterprise on any terms," to the trained security analyst "nearly every issue might conceivably be cheap in one price range and dear in another."[43]

2. *Improvement in definition of investment.*—Graham and Dodd's definition of investment was a contribution — "An investment operation is one which, upon thorough analysis, promises safety of principal and a satisfactory return." They used "operation" instead of "instrument," because price was considered to be an essential element. Furthermore, group action might qualify where a single issue might not. Without thorough analysis there could be no promise of safety. Safety, in turn, was not absolute. Rather, it was "protection against loss under all normal or reasonably likely conditions or variations." "A *satisfactory return* is a wider expression than *adequate income,* since it allows for capital appreciation or profit as well as current interest or dividend yield."[44]

3. *Functional classification replaces legal classification.*—The real contribution of Graham and Dodd was their classification of securities. The basis "is not the title of the issue, but the practical

[40] *Ibid.*, pp. 5 and 8.
[41] *Ibid.*, p. viii.
[42] *Ibid.*, pp. 17-20.
[43] *Ibid.*, p. 32.
[44] *Ibid.*, pp. 54-55.

significance of its specific terms and status to the owner. Nor is the primary emphasis placed upon what the owner is legally entitled to demand, but upon what he is likely to get, or is justified in expecting, under conditions which appear to be probable at the time of purchase or analysis."[45] The classification was based on service which the security was expected to render to the fund. An interesting feature of the classification was that a substantial change in price could change a security from one classification to another.

Class I included securities of the "fixed-value" type. The term was unfortunate, but its meaning was clear. It "includes issues, of whatever title, in which prospective change of value may fairly be said to hold minor importance." Securities which might qualify in this class were high-grade bonds, high-grade preferred stocks, and high-grade guaranteed common stocks.

Principles for selection of issues in this class were:

I. Safety is measured not by specific lien or other contractual rights, but by the ability of the issuer to meet all of its obligations.

II. This ability should be measured under conditions of depression rather than prosperity.

III. Deficient safety cannot be compensated for by an abnormally high coupon rate.

IV. The selection of all bonds for investment should be subject to rules of exclusion and to specific quantitative tests corresponding to those prescribed by statute to govern investments of savings banks.[46]

Class II included senior securities of the "variable-value" type, where prospective changes in principal value "assume real significance." In one division of this class "the investor hopes to obtain the safety of a straight investment, with an added possibility of profit by reason of a conversion right or some similar privilege." An example would be a high-grade convertible bond. In another division of this class, "a definite risk of loss is recognized, which is presumably offset by a corresponding chance of profit." An example would be a lower-grade bond or preferred stock.[47]

Class III included all securities, no matter what their legal titles might be, which were "common stock" type. This grouping of weak bonds and strong stocks produced a strange mixture of credit

[45] *Ibid.*, p. 63.
[46] *Ibid.*, pp. 61 and 67.
[47] *Ibid.*, pp. 60-61.

risk and earning power risk. Nevertheless, this is common practice. Graham and Dodd criticized the soundness of the "New Era" theory of common stocks as long-term investments, particularly when price had advanced to a level which was higher in relation to earnings than bond prices were in relation to interest rates.[48] Their "canon of common-stock investment" follows:

1. Investment is conceived as a *group* operation, in which diversification of risk is depended upon to yield a favorable average result.
2. The individual issues are selected by means of qualitative and quantitative tests corresponding to those employed in the choice of fixed-value investments.
3. A greater effort is made, than in the case of bond selection, to determine the future outlook of the issues considered. [49]

Graham and Dodd disposed of the growing interest in chart reading in this manner:

1. Chart reading cannot possibly be a science.
2. It has not proved itself in the past to be a dependable method of making profits in the stock market.
3. Its theoretical basis rests upon faulty logic or else upon mere assertion.
4. Its growing vogue is due to certain advantages it possesses over haphazard speculation; but these advantages tend to diminish as the number of chart students increases.[50]

Graham and Dodd made substantial contributions to security analysis and security classification, but relatively little to fund management. They concluded their work by stating that the analyst would obtain more satisfactory results by confining his activities to the following fields of endeavor:

1. The selection of standard senior issues which meet exacting tests of safety.
2. The discovery of senior issues which merit an investment rating but which also have opportunities of an appreciable enhancement in value.
3. The discovery of common stocks, or speculative senior issues, which appear to be selling at far less than their intrinsic value.
4. The determination of definite price discrepancies existing between related securities, which situations may justify making exchanges or initiating hedging or arbitrage operations.[51]

[48] *Ibid.*, pp. 307-16. Note similarity of idea expressed by Rose, *supra.*

[49] *Ibid.*, p. 317.

[50] *Ibid.*, p. 609.

[51] *Ibid.*, p. 616.

C. INVESTMENT VALUE RECEIVES ATTENTION

Graham and Dodd's "intrinsic value" was supplanted later in the 1930's by "investment value."[52] Williams built a mathematical approach to investment value on the earlier work of Guild.[53] Williams and Guild emphasized future dividends and the appropriate rates of capitalization. Williams defined investment value as the present worth of the future dividends in the case of a stock, or of the future coupons and principal in the case of a bond. Both presented formulas for use with various types of assumed future patterns of dividends and various assumed future rates of capitalization. Their ideas were challenging and directed attention to decay as well as to growth. Several case studies added to Williams' presentation. The least satisfactory part of Williams' work lay in determination of the rate of capitalization. Investment practitioners, who use investment values as an aid to their work, are inclined to study past, present, and probable future rates of capitalization of each stock under review rather than to assume uniform rates or assume a more or less arbitrary differential between stock and bond rates of capitalization.

It is questionable to what extent the books mentioned have affected investment thought. However, many analysts have devoted considerable effort to a solution of the investment value problem with only mediocre success. Inflation has complicated the picture even more. Nevertheless, this phase of the investment problem deserves more attention than it has received.

D. INVESTMENT COUNSELORS EMPHASIZE ECONOMIC TRENDS

The extreme decline in stock and bond prices during 1929-33, loss of confidence in investment bankers, brokers, and commercial bankers, and growing fear of inflation, all contributed to a rapid expansion of the relatively new profession of investment counsel in the decade of the 1930's. A mass of promotional literature was issued by these organizations. One of the best efforts along this line was that of H. G. Carpenter.[54]

[52]John Burr Williams, *The Theory of Investment Value* (Cambridge: Harvard University Press, 1938), p. 613; Edward S. Mead and Julius Grodinsky, *The Ebb and Flow of Investment Values* (New York: D. Appleton-Century Company, 1939), p. 513. The contribution of the second volume lay in its analysis of the indications of progress and decay in specific industries and companies.

[53]Samuel Eliot Guild, *Stock Growth and Discount Tables* (Boston: Financial Publishing Company, 1931), p. 300.

[54]H. G. Carpenter, *The Letters of an Investment Counsel to Mr. and Mrs. John Smith* (New York: Harper and Brothers, 1940), pp. 197.

In common with most investment advisers, Carpenter was critical of four common methods employed by investors, the "individual security method," the "invest-for-a-high-income method," the "put-them-away-and-forget-them method," and the "in-and-out-trading method."[55] In lieu of these he described the "major economic method," which most investment advisers attempted to employ in the 1930's, in the following manner:

> Under this method, *if the managers are extremely competent,* investment management achieves its best results, but the managers *must be competent,* especially in foreseeing major economic trends.
>
> The aim of this type of management, as its name implies, is to foresee major economic trends with a fair degree of accuracy—not perfectly, you understand, for that is impossible, but *with a fair degree of accuracy.*[56]

In passing, it should be noted that the investor who uses this method forecasts trends of business activity, earnings, dividends, interest rates, and other major economic trends as aids in forecasting major market changes (cyclical swings and secular trends in prices of stock and bonds), first on an aggregate basis and second on a specific or individual security basis. He assumes that correlations exist between economic trends and security price trends. He hopes to share in bull markets and to avoid bear markets while ignoring secondary reactions in both.

Carpenter outlined three investment objectives for a fund treated as a whole, (1) relative safety, including preservation of purchasing power, (2) moderate income, and (3) reasonable degree of appreciation during favorable periods.[57] Costly investment errors which impede attainment of these objectives were described by Carpenter as (a) disregard for marketability, (b) inadequate provision for diversification, and (c) reluctance in taking losses.[58]

In common with most investment managers, Carpenter emphasized security classification as an aid to the attainment of the investment objectives of a specific fund. His three main types were:

1. High-grade, short-term bonds and other cash equivalents (such as commercial paper, cash in bank, etc.).
2. High-grade, long-term bonds and very high-grade preferred stocks, and

[55] *Ibid.*, pp. 53-55.
[56] *Ibid.*, p. 58.
[57] *Ibid.*, pp. 6-12, 103-8. Note the argument on p. 88 to the effect that "a dollar of principal is just as good as a dollar of income."
[58] *Ibid.*, pp. 117-24.

3. "Earnings-dependent securities"—common stocks, and bonds and preferred stocks not of highest grade, i.e., securities whose prices are directly dependent upon earnings.[59]

As earnings-dependent securities have characteristics in varying degrees, it was suggested that such securities be grouped in different ways to aid in taking advantage of major economic trends. The breakdown follows:

Percentage of earnings-dependent securities devoted to:

A. Issues which fluctuate widely
B. Issues which fluctuate moderately
C. Issues which fluctuate narrowly

Percentage of earnings-dependent securities devoted to:

A. Issues whose fluctuation normally conforms very closely to the general business cycle.
B. Fairly closely
C. Only moderately
D. Remotely

Percentage of earnings-dependent securities devoted to:

A. Issues which are affected to an unusual degree by changes in commodity prices
B. Those which are moderately affected
C. Those which are only slightly affected, if at all.[60]

IV. The 1940's—Formula Plans and War Occupy the Scene

While Carpenter attempted heroically to defend the major-economic-trends method, he tipped off his approaching change of loyalty by introducing briefly the "more or less mechanical" "median-line method."[61] Three years later Carpenter embraced formula plans as the answer to the investment problem and dedicated a book on the subject to Alfred Cowles, 3d, and Henry W. Dunn, "who have so ably expounded the futility of forecasting but who have suggested no satisfactory alternative" and to Lawrence G. Tighe and Ray Morris, "the first two investment managers publicly to espouse the formula method of investment timing."[62] Lucile Tomlinson, too, contributed to investment thought by her careful appraisal of investing formulas and particularly by her explanation of the mathematical factors involved in formulas.[63]

[59] *Ibid.*, p. 4
[60] *Ibid.*, p. 134.
[61] *Ibid.*, pp. 55-58.
[62] H. G. Carpenter, *Investment Timing by Formula Plans, Today's Approach to Investment Problems* (New York: Harper and Brothers, 1943), pp. 136.
[63] Lucile Tomlinson, *Successful Investing Formulas* (New York: Barron's Publishing Company, Inc., 1947), pp. 172.

Investors have long sought a method by which they can obtain some of the profits of bull markets while being spared some of the losses of bear markets. Failure of business-cycle and stock-market forecasting to produce satisfactory results has caused many investors and investment managers to develop more or less mechanical devices to aid them. As explained by Miss Tomlinson "the investor decides *in advance* just what he is going to do if or when certain things happen."[64] Obviously judgment is required in the creation of the mechanism and the results are no better than the plan and the "timing" of the introduction of the plan to the fund. These requirements of course, do not invalidate the value of formula plans.

Two types of securities are employed which vary markedly in volatility, such as high-grade bonds or cash, and common stocks.[65] "The ideal type of stock for use with a formula plan is one which combines long-term growth possibilities with a high degree of volatility."[66] While authors present more involved explanations, the basic idea is to carry a larger amount of the more volatile type of security on the upward movement between any two given price levels than is carried downward between those same levels. It is immaterial whether the rise precedes or follows the decline. Any mechanism which accomplishes that result probably can qualify as a formula. Sales are made, generally, in rising markets while purchases are made in declining markets. Since these actions are diametrically opposed to human nature, there is no reason to believe that formulas will ever be universally adopted. However, astute investors are intrigued by the logic of such plans, and it is resonable to assume that their use will increase as further evidence is gathered and refinements are made.

The most elementary and least spectacular type of formula, generally termed the "equalizing type," is the only one which "neither involves any forecast of future market range nor depends upon past history repeating itself."[67] Various improvements in formulas tend to inject medians, moving averages, projected trend lines, indexes of production, delayed actions, etc., all of which require judgments or forecasts. Time will demonstrate that no investment utopia has been discovered and that skill and hard work still are required. Nevertheless, improvements in techniques

[64] *Ibid.*, p. 11.
[65] *Ibid.*, p. 13.
[66] *Ibid.*, p. 28.
[67] *Ibid.*, p. 64.

are being made and will continue to be made. The formula device is an addition to investment thought and practice.

Review of the current decade is not complete without paying respects to Dowrie and Fuller[68] who devoted ten chapters to investment policy. Their approach to the problem emphasized risk. The first class of risk concerned "solvency" or "profitability." The second dealt with "external influences that do not directly affect solvency or profitability." These were listed as price risk, purchasing power risk, and money rate risk. The third class included "change in the general social and economic structure, in methods and forms of investment, and in the legal rights and privileges accorded investors."[69]

V. Present Policies are a Synthesis of Past Experience

What, then, are the current trends in individual investing? We have with us today the long-pull bond buyer of the pre-World War I period; the long-pull common stock buyer of the 1920's; the "timing" expert, the "economic trend" forecaster, and the "growth-stock" specialist of the 1930's; and the "formula" builder of the 1940's. The astute investor today knows the strengths and weaknesses of all of these panaceas, and he is using the best in each to meet the threats of inflation and deflation, war and peace, communism and socialization.

The astute individual investor today is hedging various types of risks against each other more than ever before, because of the conflicting and powerful forces at work in our economy and in our society. He is less positive in his ideas than he was one or two decades ago. He is more humble. Because of his greater experience and training he is less greedy and also less panicky. He pays more attention to the lessons of the past. Most important of all, he thinks in terms of his entire economic well-being rather than of specific securities alone.

Today, a security is merely a pawn in the game of fund administration. There is a tendency to select each security for a specific function—defense, offense, income, etc.—and to rely on the combination of securities to provide the overall desired effect. There is less tendency than formerly to go all out for offense or for defense in a fund as a whole. Even the threat of inflation has not produced a wild bull market.

[68]George W. Dowrie and Douglas R. Fuller, *Investments* (New York: John Wiley & Sons, Inc., 1941), pp. 631.
[69]*Ibid.*, pp. 141-42.

While the investment formula approach has not been widely accepted by individuals, my personal observation of astute individual investors and their investment counselors is that the study of formulas is winning acceptance for certain principles of fund operation which have not been sufficiently emphasized in the past. The first is that the concept of a median area in the stock market is a valuable tool in fund management. The difficulty now is to anticipate where such an area will be in the post-war period, particularly since so much money has been pumped into the economy, on the one hand, and punitive corporate taxes are anticipated, on the other. More and more investors are accepting the findings of the formula investigators that 50 per cent offense and 50 per cent defense tends to be advantageous when the market is in the median area. Also, many investors are holding the maximum offensive position in low market areas and the maximum defensive position in high areas generally well below 100 per cent of a fund because they have less confidence than formerly in their forecasting ability. Individual investors today like to be in the position where they really do not care too much which way the market moves because they always have buying power or selling power, as the case may be.

A second principle is that the investor should be willing to do some selling in rising markets particularly above the median area and to do some buying in declining markets, particularly below the median area, rather than attempt to catch the tops and the bottoms, or wait for "confirmation" of a reversal of trend. This requires control of the emotions of greed and fear.

A third principle is that the investor should prepare in advance a plan for managing his fund. Military tacticians know that few sound decisions are made in the heat of battle. A good commander supplements a plan for attack with a plan for retreat in case the attack fails.

A fourth principle is that the investor should pay greater attention to volatility, or degree of fluctation, in security prices. Investors are tending to select those specific securities, which, when combined, will produce the desired degree of volatility in the whole fund. Much more needs to be done in this field.

Formulas tend to give only modest attention to the defensive portion of the fund. Astute investors today are students of interest rates and are trying to protect the defensive portions of their funds by the use of U. S. Savings Bonds and a hedged maturity schedule for other bonds.

Finally, investors will, no doubt, pay more attention to investment value in order to be able to buy shrewdly and, if desirable, to sell skilfully. Transition periods, such as the present, are not conducive to studies in this area. However, basic economic analysis needs to be related more closely to security price analysis so the specific security can be used more effectively in a fund, whether that fund is administered by current judgment or whether it is operated by a formula created by past experience.

DISCUSSION

WILFORD J. EITEMAN*: The four papers have presented some important facts and statistics. It would be profitable for us to devote the small time remaining to a summary of the significance of these facts and statistics to the current market situation.

The first paper informed us that during the war insurance companies invested an amount in government bonds approximately equal to their total premiums and that in the period since the war they purchased bonds of private industry to the extent of twice their total premiums. The paper also pointed out that the aggregate amount of savings flowing into investment via insurance companies is very large and relatively inelastic. Mr. Hall in his paper described the current tendency of colleges and universities to invest increased amounts of their endowments in common stocks. But, as he explained, this development has little effect upon the market since the accumulated total of all endowments is less than the annual increment to insurance company investment. Commercial banks, as Professor Willis explained, hold fewer government bonds than formerly principally because the government has been redeeming bonds and because member banks have been selling bonds to the Federal Reserve Banks.

Professor Morrison in his paper sketched the various philosophies that have guided the investment activities of individuals and institutions since 1910. One of the philosophies has been widely used to justify common stock investment. I refer to the idea of distinguishing between investing in "purchasing power" and investing in "dollars." Inherent in this concept is the thought or implication that common stocks provide an investment medium for hedging against a shrinkage in the value of the dollar.

The reasoning behind the purchasing power theory is very simple. To an investor a share of common stock represents either

* University of Michigan.

an ownership right in the assets of a company or an equity in its residual earnings. Since inflation increases the value of assets and augments per share earnings, it follows that stock prices can be expected to rise as the dollar shrinks in value. That the theory has not worked out in practice is evident from data of the earnings-price ratios of the stocks represented in the Dow-Jones averages of industrial prices for the years 1942 to date. From Pearl Harbor to the middle of 1946 stock prices rose from 8.5 to 21 times earnings. Since the summer of 1946 the prewar relation of prices to earnings has been restored.

The common stock theory of investing in purchasing power overlooks one factor of great importance. Even if common stocks do represent an ownership of assets or an equity in pre share earnings, one must bear in mind constantly that the *market value* of common stocks represents a *capitalization* of per share earnings. Thus it is conceivable that share prices could fall even while earnings increase, *if the rate of capitalization should happen to rise also.* To understand the behavior of the present security market one must inquire into *how* and *why* investors insist upon capitalizing current returns as they do.

In doing this it should be remembered that a fall in the rate of capitalization of stock or bond returns suggests increased public interest in securities. Conversely, a rise in the rate of capitalization denotes a decreasing public interest in securities. Available data demonstrate that the capitalization rate used in the bond market has followed a course similar to the rate used in the stock market.

During the period 1942 to 1946 the cash income of many individuals from wages, interest, rents, and dividends (after taxes) exceeded their expenditures for consumer goods. This was to be expected since (1) rationing reduced the physical quantity of goods available for purchase, (2) price control kept the dollar value of purchases low, and (3) the high level of industrial activity increased individual incomes. High incomes and low expenditures left a balance available for investment. Some of the funds were used to buy government bonds, some were carried in the form of higher bank balances, but some of them must have been used to purchase stocks and bonds. Since the situation described was characteristic of almost all individuals, there was no off-setting incentive to sell. In other words, during the war period the predomi-

nant attitude of individuals towards the market was that of buying.[1]

It is significant that stock and bond prices began their descent about the time war controls were removed. The ending of rationing encouraged purchasing; removal of price control allowed prices to soar. The net effect for most individuals was that expenditures rose more rapidly than income with a consequential shrinking in the balance available for investment. The impetus to spend was augmented by the war-time campaign slogans, "to save for that post-war home" or "refrigerator" or "automobile." Some individuals balanced their budgets with funds obtained from the sale of stocks and bonds. In any case the effect of the rise in the cost of living was greatly to reduce investment purchases.[2] Normally bargain prices of securities would in themselves act to curb consumptive spending but in recent months this has not occurred partially because high prices have made it difficult for large segments of the public to obtain what they consider to be the bare necessities of life and partially because of the insane desire of many persons with Chevrolet incomes to drive Cadillacs.

During the period 1942-46, corporate cash income remaining after the payment of wages, interest, rents, taxes, and dividends exceeded corporate expenditures for capital goods. This was to be expected since raw materials were subject to allocation and since the government financed much of the capital goods needed in the production of war goods. The significance to the present analysis is that corporations were not selling great quantities of securities at a time when the demand for securities was at its maximum. Following the cessation of hostilities, conversion to peacetime production created an enormous need for capital goods. Retained earnings were inadequate for the purpose, so corporations turned to the security markets for funds. Their action augmented supply at a time when the high cost of living and a desire for liquidity was drying up demand. The fact that stocks are currently selling at nine times earnings whereas bonds are selling at thirty-five

[1]Parenthetically, it should be pointed out that market prices represent the prices at which the floating supply of securities is being swapped back and forth among speculators while waiting withdrawal from the market by investors. The vast majority of shares is held by investors and is not a part of the floating supply. Hence the impact on market prices of a small excess of investment buying over investment selling or vice versa is very great. For further development of this idea, see the author's article "Economics of a Bull Market," *Commercial and Financial Chronicle* (June 14, 1945).

[2]As pointed out in footnote 1, the amount of investment selling does not have to exceed the amount of investment buying greatly to send security prices into a tailspin.

times interest payments explains the forced preference of corporations for bond rather than equity financing.

The analysis just made has some significance to the future course of security prices. As long as individuals continue to prefer consumption to investment or to insist on keeping their savings in liquid form, the rate at which the market capitalizes current investment returns must remain high. When the intense desire for spending and liquidity passes, the rate of capitalization will fall and security prices will rise relative to earnings. If, by chance, this fall in the rate of capitalization should happen to occur during a period of declining corporate earnings, we may witness the unusual but quite logical spectacle of declining per share earnings accompanied by rising security prices.

The American Economic Review

Volume XXXIX CONTENTS June, 1949

The Havana Charter . . . . . *Sir Hubert Henderson*
International Disequilibrium . . . . . *R. F. Mikesell*
Prices, Money and the Distribution of Goods in Postwar Germany . . . . . *Horst Mendershausen*
Analysis of Dissaving . . . . . *George Katona*
The Antitrust Laws: A Symposium . . . . . *D. M. Keezer, editor*
Communications:
Price Felixibility and Full Employment:
Comment . . . . . *Herbert Stein*
Reply . . . . . *Don Patinkin*
Geometrical Measurement of Elasticities . *C. D. Hyson and W. P. Hyson*
Memorials:
Wesley Clair Mitchell
Harry Alvin Millis
Reviews of Books, Titles of New Books, Periodicals, Notes

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